THE JOURNAL

OF THE

ROYAL UNITED SERVICE INSTITUTION.

VOL. L. OCTOBER, 1906. No. 344.

[*Authors alone are responsible for the contents of their respective Papers.*]

SECRETARY'S NOTES.

1. The following Officers joined the Institution during the month of September :—

Captain R. W. R. Barnes, D.S.O., 4th Hussars.
Lieutenant C. Williams, R.M.L.I.
Lieutenant C. J. Burke, Royal Irish Regiment.
Lieutenant J. D. Scale, Indian Army.
Lieutenant Honble. P. G. Scarlett, 3rd Battalion Bedfordshire Regiment.
Captain D. E. Forman, R.H.A.
Lieutenant J. H. Warton, R.N.
Captain F. J. A. Mackworth, R.F.A.
Lieutenant J. C. Powles, R.N.
Second Lieutenant C. B. M. Hodgson, 3rd Battalion Queen's Royal West Surrey Regiment.
Major C. J. Davenport, late 19th Middlesex V.R.C.
Captain J. Charteris, R.E.

(No officer of the Royal Naval Reserve or Imperial Yeomanry joined the Institution during the month.)

2. The historical catalogue (illustrated) of the Museum is now in print. It contains considerably over a hundred pages of matter, and is sold for sixpence. The Council earnestly hope that members will purchase copies, and thus assist in defraying the cost of publication. The book will be forwarded (post free) on receipt of seven stamps. Application to be made to the Chief Attendant, Royal United Service Institution, Whitehall, S.W.

3. The First Commissioner of His Majesty's Works has decided that the work of restoration of the ceiling of the Banqueting House shall be commenced at an early date. The process of restoration will probably occupy a period of six months, but during this time visitors will be admitted to the Museum as usual, since only a portion of the ceiling will be covered from view at a time.

It may be of general interest to mention that Charles I. commissioned Rubens to paint the ceiling; it is divided by a rich frame-work of gilded mouldings into nine compartments, with allegorical subjects. The centre one represents the apotheosis of James I.; on either side of the ceiling are oblong panels expressing the Peace and Plenty, Harmony and Happiness, which, according to the painter's fancy, signalised the reign of James I.; and in the other compartments Rubens' patron, Charles, is introduced in scenes intended to represent his birth, and his coronation as King of Scotland; while the oval compartments at the corners are intended, by allegorical figures, to show the triumph of Virtue over Vice. Rubens was paid by Charles I. the sum of three thousand pounds and received the honour of knighthood for his work, in which, according to Sir Godfrey Kneller, he was assisted by Jordaens. The sketches were made in England, probably on the spot, but the actual painting was executed and completed in Antwerp in the year 1635.

The ceiling has been four times restored. In the reign of George II., by Kent; in 1785, by Cipriani; in 1837, under the direction of Sir Robert Smirke (when the entire building was restored at a cost of £15,000 by Sir John Soane); and again at a later date in the 19th century.

4. The following subject has been selected for the Military Essay for the Gold Medal of the Institution for the year 1907:—

> "The Best Way of Organising and Maintaining a Reserve of Efficient British Officers for the British Forces at Home and in India, including the Indian Army."

5. Officers writing for the Naval Essay for 1906 are reminded that all Essays must be received by the Secretary not later than 14th November.

6. Additions to the Museum:—

(1) A pair of Officer's Light Infantry Epaulettes (Wings) of the Royal Monmouthshire Light Infantry Militia, discontinued about 1859.

Deposited by Lieut.-Colonel C. M. Crompton-Roberts, Royal Monmouthshire R.E. (Militia).

THE SPIRIT OF CAVALRY UNDER NAPOLEON.

By Brigadier-General M. F. RIMINGTON, C.B., Commanding the 3rd Cavalry Brigade.

Friday, 6th July, 1906.

Major-General R. S. S. BADEN-POWELL, C.B., Inspector of Cavalry, in the Chair.

The history of Napoleon's Cavalry affords many instances of the necessity for:—

1. High *moral* in Cavalry, both officers and men.
2. Thorough organisation and training in peace time.

Moral is a plant which is not much tended amongst British troops, except when the need for it is forcibly brought to notice by some disaster or failure.

This is only quite natural, as only great events demand a high *moral*.

Ordinary life affords us soldiers few opportunities to appreciate the necessity for it in war. A sailor as soon as he goes to sea is on active service.

But still, *moral* may be cultivated in peace time.

It is required to produce the best in sport, *e.g.*, hunting, polo, football, boxing; in fact, in any sport where danger occurs, and where training is needed.

It is truly said: "No sport is worth anything where there is no danger."

Moral for military purposes is where there is combination and self-abnegation, or where, in fact, a man is ready to make the greatest sacrifice for his side. Discipline which finds its highest impression in accurate drill is not complete.

Now, has the Army in England considered the first step in strategy, viz., the creation of a high *moral*, not only in the Army itself, but in the nation? We want something more than bravery.

General Kléber, when his men, overcome with fatigue, refused to move a step farther, called them cowards. As they protested that they were at any rate brave in a fight, he replied: "Yes, you are brave men, but you are not soldiers. To be a soldier is not to eat when you are hungry, not to drink when you are thirsty, and to carry your comrade when you cannot drag yourself along."

True strategy is preparation and organisation in peace time of all the elements which lead to success in war, the manipulation of the human element being a very prominent one.

Though there was hardly any peace in his time, Napoleon did his best for his Cavalry prior to a campaign and in the intervals of fighting.

We read of his Cavalry School at Versailles, the careful preparation of his Cavalry for the invasion of England, the instruction of his officers in remounting duties, and so on. Nothing which could be foreseen, practised, or learnt was left to chance improvisation in war.

For the neglect of organisation and training in peace time in the United Kingdom, the nation is primarily to blame; but it has been exposed to that greatest of enemies to true national health—a long peace.

Dr. Miller Maguire made that very plain to you when he gave a lecture recently on the "Development of National Strategy," and I consider that the arguments and instances which he produced are unanswered and unanswerable.

But it is one thing for us soldiers who meet here to agree with him and quite another thing to get the nation, or that which is best and healthiest in the nation, to adopt his views.

But that does not absolve us from attention to this point.

For the purpose of considering the subject of this lecture, namely, "The Cavalry Spirit under Napoleon," I divide the history of his era into three periods:—

1. The Inception, from the Campaign in Italy in 1796 up to 1805.
2. The Zenith: 1805—1812.
3. The Decline: 1812—1815.

The Inception.

Beginning, then, in 1796, we find that the tendency in Europe, and especially in Germany, was for the generals (usually Infantry generals) to restrict the action of their Cavalry, and not trust their leaders. Napoleon, on the other hand, as soon as he gained a success, sent off all his Cavalry, even his personal escort, to confirm his success.

This was the time when Napoleon's future leaders were making their reputation, and we come across instances of this.

Ney (known as the bravest of the brave), when fighting against the Austrians, and commanding a Brigade of Hussars, was manœuvring to gain time for his infantry to come up, and when leading some of his troops to retake a captured gun, got a fall from his horse in some rough ground and was taken prisoner with some of his Hussars.

He was eventually rescued by the French.

At this period Cavalry leaders of high rank were still obliged to take part in hand-to-hand fighting.

It was done (says Picard) so as to affirm their vigour, bravery, and superiority before the men, a very desirable object for Cavalry leaders, but one which should be subordinated to some extent to their duties as commanders. Of these latter duties he says: "They still make too little."

Again, Lasalle at this time (1797 in Italy), a squadron leader, and about 22 years of age, charged a battalion with about 20 Chasseurs, and made them prisoners.

Napoleon, when Lasalle handed in the colours he had taken, only said to him, observing how pale and overcome with fatigue he was: "Go and have a sleep, you deserve it." But Lasalle was a general a few years later. Till his death at Wagram, he posed as a rowdy and a swash-buckler. He was that invaluable character in Cavalry, or R.H.A., who is always asking to be allowed to go on. A Cavalry general finds his greatest support in men of this character—who are always looking for trouble.

Lasalle was not only a leader but a trainer of light troops.

We read of a French and an Austrian squadron leader, engaging in a single combat in front of their squadrons for several mniutes.

Kellerman, Adjutant-General at this time and barely 27 years old, made a good charge and was promoted on the spot to a brigade.

Only two years before he was a private soldier.

We see again and again that Napoleon, the greatest military organiser of modern years, rewarded courage before all other military virtues, especially when anything out of the way was done.

Speaking of one of his generals he used to say: "When a man is as brave as he is, he is worth his weight in diamonds."

It is well known that it is a good policy to mention in Brigade or Regimental Orders, the same evening, any strikingly good work. *Bis dat qui cito dat.* Next day everyone, even not very brave men, are anxious to emulate yesterday's hero, and this becomes a habit and a step forward is organised.

Scobeleff presented medals on the battlefield. So also did Napoleon: taking the star off his own breast he gave it to a man.

Napoleon's Distribution of Rewards.

Of this question of reward, one learns something from the Memoirs of General Baron Thiebault, who says, speaking of the Emperor in 1812, that Napoleon, formerly so happy in his distribution of honours and decorations on the battlefield, had now grown capricious and bizarre.

But he kept to the point in one respect, that he honoured bravery on the battlefield before everything.

One day a Colonel asked for the Cross for his Quartermaster.

Napoleon refused it, saying: "I want blood, not ink."

Again a Sergeant asked for a decoration, his Colonel tried to keep him back, Napoleon asked what he claimed it for?

For pulling down the palisades at the attack on Stralsund. Is that so, Colonel? Yes. What else have you done? I took a colour at so and so. Is that true? Yes. Then why should I not give this man the Cross? Because he is a drunkard and a thief.

Bah! Blood washes all that out.

The 1798-1800 Campaign in Egypt followed the Italian Campaign.—It was the school of many of the Cavalry leaders of the Empire: Murat, Lasalle, Colbert, Davoust, and many others.

And there was plenty of hand-to-hand fighting, in which these leaders took part. The Mamelukes were considered by Napoleon to be, individually, the finest Cavalry in the world. Many junior officers first came to Napoleon's notice here.

And it was on the dash, quickness of comprehension in a fight, and belief in their superiority, that he built up his Cavalry in the next four or five years.

In 1804 there were certain changes in evolution, which show the general tendency to improvement in Cavalry.

At this time the movements were practically the same drill as we had in 1881, and also as the French had then had for 16 years since 1788.

Amongst other changes made we note that the place of the troop leader was with their horse's croup in the ranks in the charge.

That change looks to me as if they meant business.

As if they knew the value of the knee-to-knee charge.

We see a step forward made when close column charges against infantry were done away with, and it was impressed on all that the preparation for the charge on infantry should be made by light artillery, and be in succession of squadrons, for we see the unison of these two arms commencing.

Picard says we will not go into the reproaches heaped on the old evolutions, but we will only mention the most marked.

The worst assuredly was the complication of mathematical movements quite impracticable on the battlefield, and which must be eventually "boiled down" to the simple formula: "Direction, the enemy."

There is a word of command now in the French Cavalry training, *En bataille*; everyone forms as quickly as possible in the direction pointed out by the leader's sword, and charges.

He says the 1788 Regulations were evolved in peace, and they lost sight (as peace regulations have a way of doing) of the object in their anxiety for procedure.

Napoleon even required that his Cavalry should charge successfully at the trot, which he said was the quickest pace at which large masses could move and keep order.

Napoleon meant his cuirrasiers to charge infantry.

SECOND PERIOD.

The Zenith.

In 1805, the formation of what was known as Cavalry Reserve was the first great step towards giving strategical prominence to Cavalry.

Napoleon organised a great mass of Cavalry called the "Cavalry Reserve" (besides giving Cavalry to his Infantry Divisions).

Murat, as at Marengo, commanded this Cavalry Reserve, and it consisted of 22,000 men and 13,500 horses. Regiments were from 500 to 250 horses strong.[1]

We know that Napoleon's idea was to use his Cavalry Reserve as a scouting force, a covering force, and a support at one and the same time in this campaign.

It is said at this date, first, the unison of the three arms was remarkable (but that is always the result of continued fighting); and second, the cavalry believed in a *resolute offensive*.

This latter was to be the real secret of their success in the next few years.

[1] This inconsistency in the number of horses and men is explained, owing to the Dragoons being dismounted.

Now, in the advance on Ulm, as the Cavalry began to clear the forests and mountains, Napoleon was most anxious for news, and though later he entrusted reconnaissance duties to Cavalry officers alone, at this time he sent staff officers with them.

Staff officers cannot be sent everywhere to do this, and it is absolutely indispensable that Cavalry officers should be taught to carry out this work. But how is it possible for them to do this unless they have a certain strategic knowledge? This should form one of the incentives to young Cavalry officers to study.

At this time the Emperor used many orderly officers, and Captain Colbert, an orderly officer on the staff, was sent with despatches on a ride of 18 miles over the most frightful roads.

He had got some distance when the road was reported under water.

He got a guide on horseback with a long stick to take soundings, and with him he got within a mile of his destination, then he had to take a boat. He got through, and was praised for doing so by Napoleon. I mention this because it enables me to draw attention to the fact that Napoleon always asked of a man:—

First: Is he lucky? Second: Is he enterprising?

The fighting which followed at Ulm proved the success of well-trained Cavalry.

After this success in 1805, we come to 1806—the Jena Campaign.

French and Prussian Generals Compared at Jena.

On the outbreak of this campaign, Napoleon had an almost perfect weapon forged to his own hand, and could afford to take risks; and he took them.

Leaders selected and tested in war and proved by war, leaders who would "go ahead" on their own responsibility; leaders who had confidence in their troops, and whose troops believed in them: "Let me be at them," lads.

What had Prussia?

Peace-worn generals, selected because they had never given any trouble or dreamt of doing anything out of the ordinary run.

Nice, good fellows, and so "smart" on parade.

The "let-me-lay-down-to-rest" and pension division.

Seldom or ever on a horse, and then it must be a very quiet one.

A very powerful parallel was recently drawn in the *Times* between our nation (not our Army) in 1906 and the Prussia nation in 1806.

Fat, lazy old men cannot lead cavalry.

They cannot do 18 hours in the saddle on a hot summer's day.

A long peace is bound to be fatal to cavalry efficiency.

The Prussian cavalry, 225 squadrons (rather more than the French), who were destined to be swept away like chaff before the French Cavalry, were the squadrons with the Seidlitz and Ziethen traditions, and perfect in evolution.

But what avails evolution without a leader or organiser?

These Prussian squadrons were mixed up with the Infantry by groups of ten squadrons, and generally kept in reserve, and under the disposition of the commanders of the Infantry divisions, *cf.*, our organisation.

It is a warning to us how necessary it is not to let a single squadron, much more a regiment, be wasted in this fashion.

The French reserve of Cavalry under Murat was the same which had effected so much in 1805.

What destroyed the Prussian Cavalry was their hopelessly bad organisation.

However good such a Cavalry might be in evolution, it was useless for war against a Murat at the head of squadrons, in the hands of squadron leaders, to whom a fortunate charge might mean promotion of a most rapid nature.

Leaders will gamble on a charge much more freely when they know they will get something if their efforts are crowned with success.

But surely the moral is, that Napoleon's plan was to find a Cavalry leader and let him organise his Cavalry to help his plan of campaign. He put the whole matter in his hands, and above all avoided wasting his Cavalry in a sort of insurance policy.

The essence of Cavalry is offence, not defence and shepherding Infantry divisions. The latter work, it seems, would be best carried out, as suggested by Brigadier-General A. Thornycroft in a recent Cavalry journal, by highly-trained M.I.

The Archduke Charles says of this campaign: "These magnificent Prussian squadrons had no chance against the French Cavalry, because though the latter were inferior, they were led by officers who knew the value of opportunity, and were ready to take every advantage of it, whilst in the Prussian Cavalry any good points of this sort were paralysed by defective command and dispositions."

Their generals—aged gentlemen, who had been subalterns under the Great King—had lost all idea of the main object: superiority in the combat, in their search for *minutiæ* of questions of evolution.

They were the college dons of cavalry — the pedants — "the *formulæ* hunters."

Their conceit was so great that the Prussian general, Ruchel, said that if Bonaparte took service in their Army they could make a good corporal of him, and that they had scores of officers better than him.

Marbot says that the young cavalry officers sharpened their swords on the steps of the French Embassy. Such pride usually goes before a fall.

At no time, it is said, was military literature so highly thought of.

Mathematical *formulæ* were produced for every possible circumstance.

What had France to place against these combinations? Instead of mechanical perfection it had patriotism; instead of drill it had *moral*.

I do not like to pass this period without mention of Napoleon's system of getting information.

He derived information from three sources—spies, reconnaissance, and intercepted letters (and one might add from prisoners, for whom he often asked his Cavalry leaders).

His squadrons must march massed, and the information must be got by small parties under a responsible officer (they sent, say, under a subaltern, 25; under a captain, 50; C.O. or squadron leader, 100 men).

We read: "Now no longer does he send a staff officer with them; he has confidence in his Cavalry leaders from their experience of war."

In all cases an objective was indicated, whether the course of a river, or a place where any roads meet, or an important town, *e.g.*, Gera in 1806.

When they have long distances to go they march at night and arrive about dawn, like partisans.

Later we shall see his enemies use somewhat similar means to beat Napoleon.

The battle of Jena was won largely by determined charges of the French Cavalry.

On the other hand, the battle at Auerstaedt was lost by the Prussian Cavalry because the French Infantry stood firm.

Blücher had a mass of Cavalry with him, but they did not break the French Infantry.

When we remember what I said above about the training of the Prussian Cavalry, it is strange to note that Blücher complained to the King, that when he tried to rally his Cavalry they knocked him over instead of rallying.

The King replied: "They did the same to me."

(The "rally" is one of the most important portions of the training of Cavalry; evidently it had not been much practised in a time of peace by the Prussians.)

In peace we are apt to forget that it must be second nature to Cavalry. Cromwell's battles should teach Cavalry that.

Napoleon now entered Berlin.

By pure effrontery Lasalle, with a few regiments of Hussars, got the fortress of Stettin to capitulate.

Then Napoleon writes to Murat: "If your Hussars take strongholds, I have nothing to do but break up my artillery and discharge my engineers."

After this campaign Napoleon said, in regard to the proportion of the various arms: "If it were not that I must have regard to recruiting for my Artillery and Infantry, I would increase my Cavalry, and would make Hussars and Chasseur regiments consist of 1,000 men (5 squadrons of 200), Dragoons consist of 1,000 men (4 squadrons of 250), and that would give me 84,000 Cavalry."

The severity of the discipline which led to efficiency at this date is apt to be overlooked.

In 1807, Lasalle's Brigade of Hussars were about to charge, and had not advanced 20 paces before a cry of "Halt, halt" was heard, and spread through the ranks without anyone knowing where it had started. They then turned tail and bolted, and it took seven or eight minutes to rally them. This accomplished, Lasalle led them to the front and kept them where they had bolted from till the middle of the night under a terrible artillery fire, which killed many of them.

Even the general at their head had two horses shot under him. It is said "not a soul moved or murmured."

A large part of Napoleon's Cavalry were Dragoons. Dragoons were really Mounted Infantry.

What was thought of them may be gathered from the following story:—

General Milhaud says in his report that a miserable affair between Cossacks and Hussars caused a disaster among my ranks.

I had led several lines of Dragoons to attack, but had the mortification, not of seeing them cut down, but of seeing them one after

another go about. I could have wished to have died there and then in the *melée*, but was rescued by our Grenadiers of the *Corps d'élite*. I never wish again to command such troops.

Picard comments as follows:—

"These Dragoons were doubtless as brave as the rest, but their arm was victim to the false idea that one can make men into good Infantry and good Cavalry at one and the same time."

The greater part of these Dragoons had only been mounted a few months or weeks before.

The moral as applied to Cavalry is obvious: if you make them think (what is not correct) that Infantry cannot be ridden down, because the rifle is such a terrible weapon, they will *never* charge.

Each arm must have its own ideas.

Infantry officers must not try to teach Cavalry that they cannot ride down Infantry.

Cavalry officers must not imagine that it is their *metier* to persuade the Infantry of our Army that they can be ridden over by Cavalry.

Colonel Baykoff says of the work of the Russian Cavalry in the Russo-Turkish campaign:—

"If the dash of the Cavalryman is to be maintained, he must not allow himself to get into the way of a faulty and too frequent dismounted action."

He further holds:—

"That dismounting easily degenerates into an impulse of self-preservation, and for this reason some men take to it more readily than to a cool daring on horseback.

"They are men who wear the Cavalry uniform, but who do not possess the daring Cavalry spirit."

Von Schmidt:—"It cannot too often be repeated that the main thing is to carry out the mission *at any price*; if possible, this should be done mounted and with the *arme blanche*, but if that should not be feasible, then we must dismount and force a road with the carbine."

This holds good to the present time.

THIRD PERIOD.

The Decline—1812—1815.

To what can we assign the decline as far as the French Cavalry are concerned?

I would suggest that:—

1st.—It was owing to the force of Cavalry being top-heavy, an immense corps without training. It is said that there was a great rush of the Parisian "young bloods" to take part in the Russian "walk over."

2nd.—To Napoleon's and Murat's prodigality of Cavalry and disregard of horse management.

3rd.—To the partisan tactics of the enemy.

4th.—To the exhaustion of France in horses and men.

5th.—No time being given to Napoleon to organise his defence in 1814 and 1815.

6th.—To some of his own generals fighting against him, and again because some of those who held commands under him wanted to rest on their laurels.

What were Napoleon's future antagonists about now?

The Prussian Cavalry was being reformed, but could only get 19 regiments, of 500 men apiece, together.

They also re-wrote their Cavalry training, and Laroche-Agnon says:—

"We feel the necessity of abolishing for ever these complicated exercises, which charlatans only could have introduced.

"The detailed instruction, if very simplified, demands less time, and cutting out everything which is not necessary affords more time for instruction on horseback and detached duties."

In 1811, probably as a result of the fatal defeat of Jena in 1806, the Prussians, for want of horses, had to come down to 3 squadron regiments, as we have now.

But though they made progress, their organisation was still faulty, as they had mixed brigades of Infantry and Cavalry.

Also their Cavalry were mixed with Landwehr Yeomanry, in a proportion of about 50 per cent.

The Russian Cavalry had at this time most useful allies in the Cossacks.

These made reconnaissance extremely difficult, and very soon Napoleon's Staff and Cavalry officers, instead of pushing their exploration well up to the enemy, had to be content with what they could learn from the inhabitants of villages and cottages; so Napoleon was now less well served in respect of information of the enemy.

The immense corps of Cavalry which Napoleon now formed had a tremendous disadvantage, by reason of its being too cumbersome. With 3,000 horses in one corps they did not get the value which would have been got from 300 (says General Foy). On the march the horses were saddled and bridled just three times as long.

One month after the passage of the Niemen, out of 50,000 Cavalry then present, scarcely 6,000 took part in the battle of Borodino.

The difficulties of feeding the horses were immense. Though requisitions were made to such an extent that Prussian and Poland suffered more than from a war, food was not served out regularly, and soon everyone requisitioned on his own responsibility and without method. Further, there being no stores of hay, oats, etc., the Cavalry used green forage and lost innumerable horses from this cause alone, whilst the rest lost strength.

Before crossing the Niemen, more than half the horses were saddle galled.

Still, at the opening of this campaign there was immense enthusiasm. To such an extent was this carried that a Colonel commanding a Polish Regiment of Light Horse, asked permission to be allowed to swim the river instead of fording it. He plunged in and told his men to follow him. Great confusion followed, and forty Lancers and many horses were drowned. Most of the remainder came back to the bank from which they had started. The Colonel, with a few only, got to the other side.

An order issued shortly after crossing the Niemen shows how much less confidence was now felt by the light Cavalry of the French:—

> "The enemy have so much Light Cavalry that reconnaissance parties should consist of at least 50 men, unless they are supported by other parties. Otherwise the patrol will be taken, to our loss of confidence and to the increase of that of the enemy. The aim of reconnaissance is solely to establish what is in front and on the flanks, but this must be done by strong parties."

After 25 days of the campaign, Murat's Cavalry was reduced from 22,000 to 14,000 horses, and the remander to an even greater degree.

The Cavalry of the Army Corps by half. Latour Mauburg's 10,000 to 6,000.

The Emperor's personal Cavalry, used by him for special reconnaissance, had great losses; and this without much heavy fighting.

Murat is now seen at his worst. He is sent to follow up the enemy, and he does so with a large force of Cavalry in an endless column on the main road, every day under the saddle for 16 hours. All the time Murat was with the advance guard, galloping here and there after wisps of Cossacks, who dispersed as soon as he got near them.

The column had no repose and no time to feed, and as Nausouty said to Murat: "The horses, unfortunately, not being able to sustain themselves on their patriotism, fall down by the roadside."

The galloping after wisps of Cossacks reminds one of some of the latter stages of the Boer War, and so does the remark about the horses. How could our horses live on patriotism in South Africa, especially as they were in many cases aliens?

It is remarked that the great number of young horses sent from depôts and badly fed, had something to do with the loss of horses.

But the fact was, Napoleon took less care of his Cavalry than did Frederick the Great; all he cared for was to get results (in the battle in hand).

Turning from the Russian fiasco we come to the campaign of 1813.

Napoleon now, in 1813, attempts to organise his Cavalry. A *levée* of 30,000 was made in France in this year. Nearly 3,000 officers and sons of officers were obtained from the Gendarmerie and from the Spanish Cavalry Division, to fill up the cadres of Cavalry returned from Moscow. Of these latter it is said:—"Little was left, almost all having perished."

Both Russia and Prussia now employed free corps or partisans against the French, and these corps had more effect than anything else in ruining the French. The instructions drawn up for the partisans of the Prussian Army are regarded as a model of their kind. De Brack's light Cavalry outposts are equally so.

After the battle of Katzbach we read that Blücher pressed his Cavalry to pursue, but these made a very weak attempt at pursuit, blaming the weather, etc., and then fatigue.

Blücher said, and his words show the true Cavalry spirit: "The State can afford to lose a few hundred horses in order to make a victory complete, or when it is a question of the annihilation of the enemy's army. The neglect to obtain the full results of a victorious

battle is inevitably to oblige yourself, sooner or later, to gamble again."

He made a successful rearguard fight on the river Neisse, near Gorlitz, as follows:—

Murat, coming up at the head of his Cavalry, saw a Cavalry regiment covering the last portion of the retreat over the bridge.

When Murat's Cavalry was just about to charge, these Cavalry opened their ranks and unmasked the heavy artillery, which opened an unexpected fire, causing a loss of 300 or 400 horses in a few instants.

1814. The Invasion of France.

At the commencement of the invasion of France by the allies, Napoleon was organising as quickly as possible the meagre resources left in France of horses and men.

He commandeered all horses suitable for Cavalry, and sent to regiments funds to buy any suitable horses.

He dismounted the same day all the foreign element, Germans, Croats, Hollanders, etc.; these were objects of suspicion now.

The French were not only short of horses, but of arms, including *l'arme blanche*; 3,000 of the Cavalry were conscripts. Still, extraordinary good work was done to begin with.

Milhaud's Cavalry inflicted severe loss (400 men and 150 prisoners) on Wrede's advance guard, and established Cavalry superiority early in the campaign.

Wrede finally had to use two army corps to push back General Milhaud's Cavalry line; but as soon as they pushed after it they lost touch.

Picard says the allies constantly spread out their Cavalry in every direction instead of concentrating it. Consequently they moved blindly, which naturally increased their slowness.

He points out, what does not appear in Hamley, that a great deal of Napoleon's strategy of 1814 was based on exceedingly good officers' reconnaissance work, *e.g.*, a well-mounted officer and four men go out with orders to push on till they find the enemy and ascertain definitely the direction of his march; but remember this was in their own country.

On the 12th February, at the Château Thierry, Cureley, in command of the 10th Hussars, got an opportunity and successfully threw his regiment at the flank of 30 squadrons of Landwehr. This gave an opportunity for Letort with the Dragoons of the Guard to charge the front. This resulted most successfully for the French.

Napoleon, in his bulletin, only put: "Colonel Cureley made himself conspicuous." But he at once promoted him to the rank of general for this feat of arms, and if a tithe of what de Brack says of Cureley is true, no man ever better deserved such promotion.

Now, take Napoleon's action, on the other hand, when his subordinates displeased him.

After the battle of Vauchamps, General Guyot's division of heavy Cavalry left its company of horse artillery some distance behind it owing to the wet weather. Some Russian Cavalry in retreat met the artillery in a wood, and in spite of the efforts of the commanding officer, who formed his detachment into a troop and fought bravely, two guns were taken.

Napoleon deprived General Guyot of his command for this and gave it to Excelmans.

As an instance of the difficulties with which Napoleon's Cavalry leaders were confronted at this date, we read that after the battle of Montereau, Pajol charged with Cavalry only trained for fifteen days.

It shows what leaders can do, for it is said: "The men were young and untried; some had never ridden until a fortnight before, and hardly knew how to hold the reins in one hand and the sword in the other They could scarcely do right or left turn without using both hands to the reins."

And yet these Cavalry supported the attack (even if they did not make it) on the bridges at Montereau.

Practically the horses took charge and carried them through. Pajol apparently counted on this and took the risk.

But it stated further that "With young soldiers who were not able to control their mounts" one knows what will happen — a torrent of runaway horses.

No one has done more service to Cavalry than Colonel Maude when he insists that the Cavalry horse must be unconditionally obedient to his rider.

General Delort did not hide his mind from the officer who brought him the order to charge, when he said: "I believe in truth he is mad when he asks me to charge with such Cavalry as this."

At Arcis the French Dragoons had been outnumbered and outflanked, and were flying. Napoleon heard the cannonade at Tourey and galloped over with some officers and the troop of escort, and got mixed up in the fight, and had to draw his sword and fight to get clear of it.

After taking refuge in a Polish square, he at the first chance left his place of safety, and, racing through the flying Cavalrymen, got to the bridge, turned about, and faced the runaways, at the same time he thundered out: "Which of you will pass before me?"

The Emperor then rallied and reformed them, and led them against the enemy's squadrons.

But there were only some 2,600 against the enemy's 6,000, and these were supported by a formidable force of artillery, and behind that an army.

Ney's Infantry could not get to support the French Cavalry. The Old Guard was still a long way off.

At last they came up, and Napoleon began to put them in order of battle. At that moment a shell fell in front of the Old Guard, some of whom ran back.

Napoleon at once pushed his horse close up to the smoking shell, and kept it there to give them a lesson in steadiness.

The shell burst, disembowelled the Emperor's horse, who fell with its rider. The Emperor was hidden in the dust and smoke for a moment. Then he rose without a scratch, got on a fresh horse, and began again to mark out the position of his troops.

It is characteristic of the true leader to show himself cool and brave when the rest are shaken.

The Waterloo Campaign, 1815.

The coalition had done away with conscription in France and substituted voluntary service.

It is interesting to note, in view of our present leaning towards territorial organisation, that each department had a territorial force formed of the three arms as follows:—2 battalions Infantry of the Line; 1 battalion Light Infantry; 1 company Mounted Eclaireurs; and 1 company of Artillery.

Picard says: "Of course, the allies knew well in making such an organisation that they rendered instruction quite impossible. An organisation of Cavalry or Artillery must always be by regiments, in order to maintain efficiency."

When Napoleon escaped from Elba the strength of the Cavalry was 25,000 men and 11,000 horses fit for a campaign.

Napoleon's first step was with regard to the *moral* of the Army. He knew well how to play on their feelings.

He reconstituted the old numbers of the regiments and gave a 4th and 5th squadron to Cavalry regiments. Then he set to work to get horses. On the 1st June the contractors had already handed over 20,000 Cavalry horses.

10,000 trained horses were obtained by dismounting the *gendarmes* and paying them the price of the horses; the gendarmes had remounted themselves in 8 days on horses selected by themselves. (Half of these were again to have been taken by the end of July.)

One way and another there were 46,000 horses in the depôts by the middle of June. Men were collected at the average rate of 7,000 per diem.

Napoleon was secretly organising an army without letting the allies know anything of his intentions.

On the 12th June he arrived at Leon, and having sent for Grouchy, he learned that he had had no orders for eight days.

Napoleon at once gave orders to him to send all the Cavalry officers whom he had with him to report themselves to him personally. They were then instructed to carry to all the Cavalry regiments orders for their immediate march. Many of these regiments had to make journeys of 15 to 20 leagues to get in time to the frontier. The French Cavalry were thus overworked from the start of the campaign.

CONCLUSION.

Now, what is the application? Napoleon recommends us to read to obtain a knowledge of the *secrets of the art of war.*

Is there any secret to be learnt in reference to some of our Cavalry problems?

Personally, I like to think what Napoleon (and his Cavalry leaders) would have said on these questions if their ghosts, friendly disposed to us owing to an *entente cordiale*, could come and sit here and discuss them.

What is Our Cavalry for?

After saying: "You know if I had had Cavalry in 1813, I could have conquered Europe," Napoleon would ask: "What is your Cavalry required for?"

1. You say at any rate your Cavalry is required for keeping up the Indian and Colonial garrisons.
2. For interposition with a striking force in Europe.

Possibly for other reasons. But taking these two.

Then, for the latter (No. 2) they must be trained up to the best possible standard. And you can at once decide that Yeomanry, who train for two weeks in the year only, are not up to, say, the French or German standard of men trained continuously and systematically for three years? Yes. Even if the Yeomanry were under severe discipline? Yes.

Again, you need not regard Mounted Infantry, trained with horses for two or three months, perhaps some two or three years back, as of the same calibre as Continental Cavalry.

Then for your Cavalry striking force you have only whatever proportion of your mounted men is real Cavalry, less recruits of under one year's service, and plus your Reservists.

But you are aware that the Continental Cavalry will not rely upon Reservists, as they consider they are not suitable, except for the second line troops.

You have further the disadvantage that on the Continent they take the pick of the nation at 21 years of age, and you take those, who, as a rule, cannot get other work, and at a much younger age. It reminds me of the conscription of 1813.

Hence, your English Cavalry begin at a very considerable disadvantage as regards *personnel*, however good your cadres may be.

After my experience of the difficulty of improvising Cavalry in 1813 and 1814, I deeply sympathise with your leaders.

But you say really one of our greatest difficulties is the question of our drafts for India.

The Director of Recruiting has done all that a man can do.

Well, as far as your Cavalry goes, could you not train far more men with your present *personnel* and *matériel*?

Certainly.

And the Cavalryman is already trained as a rifle shot equally well as the Infantryman.

Then why not train more Cavalry?

Then in war you could select the men required for Cavalry, and for whom you have horses; any surplus can be only too easily disposed of.

In a war with European nations your Mounted Infantry will be ridden down by well-trained cavalry. It is of little use to flatter yourselves that they have their place on lines of communication, and will not come in touch with the enemy's Cavalry. That is pure theory, and not practical.

The objections urged to their use in my day have not disappeared.

I would merely add that your proportion of Cavalry to Infantry seems to be most appropriate to a campaign in the Pyrenees or Alps. *cf.*, Napoleon's War Maxims, XCI.

Reserve of Young Officers.

It is obvious you want a large reserve of *young* and thoroughly trained Cavalry officers, since your loss is bound to be great in war; and the question is, therefore, how can you provide them?

The troop officer, as long as he can lead men, has thoroughly learnt horse management and his duties in the field, is what you require in large numbers.

Well, to learn to lead men, he must be practised when young, as in the Navy. The other duties also he learns just as well at 17 years of age as later.

And he could learn to be a troop leader in two or three years, and for the next eight or ten years on the Reserve he would be valuable, in case of war, as a troop leader. Yes.

Then why not take him on a very simple examination in literary ability at 17 years of age? Make his parent pay £100 a year for his expenses on the same principle as at Osborne and Sandhurst, draft him to Aldershot or the Curragh, teach him his duties, and let his education run concurrently, as is done in the Navy.

Why should he not live frugally and cheaply for two years?

One hears of many parents wishing to send their sons to Osborne for the sake of the education.

Why should not, and why cannot the Cavalry give an equally good education?

And will not a large number of parents be glad to send their sons where they will learn discipline and command of men, and finish their education before they take up their permanent walk in life?

Surely you know many parents who would wish to do so, and who know very well that at the age of 17 years they cannot determine their son's fitness for the Army *as a profession*, or, in fact, his suitability or otherwise for any particular line of life.

It is after the cadet becomes an officer that he must get his higher military education in tactics, strategy, organisation, law, and so on.

You do not want in the Cavalry a large number of generals; you want in war a good supply of first-rate troop and patrol leaders.

Again, the officers, selected from these cadets to go on in the Army, will be worth paying as professional men. You recollect my well-known saying: "That you are a nation of shopkeepers." Surely, then, you know that you must pay highly for a good article.

At present your reserve for Cavalry is formed of much older men, many of whom left the Army because the work was too hard for them, or for similar reasons.

Note also that they leave with a rank which does not suit them for re-entrance to the Army.

They would come in, in some cases, over the heads of very much more able juniors.

They are well suited for some jobs such as remount work, etc., but not in the combatant ranks of Cavalry.

Your Yeomanry officers are not sufficiently instructed to come as troop leaders in an emergency. They cannot be without two years' training in a Cavalry regiment.

Much wiser to promote your non-commissioned officers to command troops in war. It would arouse their emulation.

You remember I always said plainly, I must have the best officers for my Cavalry. Neglect of this principle may cost you dear in war.

Napoleon on Polo.

You say polo is obviously a good game, bar the question of expense. But do no poor men in the Cavalry play polo?

Oh yes, a number. Well, send for one and let us ask him how he does it. You know I started a pack of hounds at the Cavalry

School—and we all know how well those British officers rode across country in the Peninsula.

Well, in the first place, how do you buy ponies?

I buy some ponies which run away with my rich friends, because their grooms have overfed them, and they have underworked them.

I buy some ponies which have kicked a lady's pony cart to pieces for similar reasons.

You, no doubt, get them cheap?

Yes, practically given away, £20 to £40 not more, or I buy them when their owners must sell.

And how do you feed and groom them?

Well, as overfeeding has caused them to come into my hands, they do not get much. I give them grass and hay till they are reformed characters, and as I seldom get off their backs, grooming is superfluous.

In the autumn I turn them out to grass for five or six months, or I sell them to a dealer if I get a good offer.

I think this young officer is lucky and enterprising; the sort of man who seizes an opportunity and can make a good deal out of very little opportunity. I should put him down for promotion in my light Cavalry. He would be just the man for advanced posts in war, where, as de Brack says: 'There are no such things as magazines.'

If this officer can play polo and so exercise his brains, muscles, and knowledge of horses to his own advantage in peace, he will be able probably to exercise the same to the advantage of the Army in time of war, and will be much more valuable than those officers who have not his abilities. If he can do this, presumably others can do so.

He is suitable for Cavalry and the sort of man who is required.

"Poverty, hardship, and misery are the school of the good soldier."

Let our young Cavalry officers and their parents ponder over what de Brack says in his introduction to "Light Cavalry Outposts" (the best book, I think, ever written on the subject):—

"A man must be born a light Cavalry soldier. No situation requires so many natural dispositions, an innate genius for war, as that of an officer of light troops. The qualities, which render a man superior — intelligence, will, power — ought to be found united in him. . . .

"His profession is a rough one, but every day affords him opportunities for distinguishing himself. . . .

"He must inspire his men with entire confidence, devotion, dash. . . ."

Napoleon on Moral.

What would Napoleon say in regard to *moral*? One may suppose that, whilst he would allow that it is most difficult to preserve and cultivate in peace time, and extremely apt to degenerate into mere ceremony. He would insist:—

1. On more importance being attached to the soldier's attestation oath.

   It should be a solemn ceremony before the whole regiment, not hurried over in a Magistrate's Office.

2. That attention must be paid to the nation's discipline. Discipline and the ordinary rules of sanitation must be taught in the schools.
3. That the nation must be cunningly stirred by every available means to an enthusiasm for the Army.
4. That the vogue of abusing the Army must be "bad form" in the so-called educated classes.
5. That it is a pity when the Army becomes an arena in which our embryo strategists display their muscle and air their political propaganda.
6. That the idea that anything but strict discipline and continual hard work in peace can make a soldier of any value in war must be strangled.
7. That the cost of the amateur soldier must be approximated to his real value.
8. That no material advantage should accrue to those who do their duty as Volunteer soldiers to the State over those who do not, is a cowardly subterfuge on the part of the nation.

Colonel R. N. R. Reade (late Commandant Royal Military College, Kingston, Canada) :—There are two very interesting points in General Rimington's lecture on which I would ask him to give us some further illustrations of Napoleon's views. He has touched upon both. The first is about the training necessary for a reserve officer. I gather from him that once an officer has had a good preliminary training, he need have no more for the next eight years, and would still be valuable to come out as a troop leader. It is a point about this preliminary training which I wish to put to him. I want to ask him if it would not be, in Napoleon's view, a good thing to establish a training college, where these officers could be taught by the cavalry leaders, the school being run in every way as a cavalry school, but where they would also learn something to help them in civil life, so that on leaving the school they could go out as graduates and take their place in the civil life of the country as successful men and not as wasters? I am very much interested in this point, because I have had the honour lately to command the Royal Military College of Canada, and there I have been in touch with two unique and very interesting military schools on the other side of the Atlantic—one, the United States Army School at West Point, and the other the Royal Military College of Canada. West Point College was established in 1802, when the Americans saw the necessity of having trained officers, even if they had a small army; and they see the necessity still more now when there are so many things in a rich nation to attract men to go to rather than to the Army. They have very little to offer them as a career in the Army, though they may pay them better than we do here. The way they do it is this: Each senator can nominate so many cadets for the West Point College, and they pass a very easy examination, and then go there for four years. They pay nothing while they are there, except an entrance fee of £20. They are fed, clothed, and taught for the four years there, and on graduation they pass out for another four years into the United States Army. The United States consider that they are well paid for the expense of the College. They get a good class of officer in their Army for four years; and the proud boast of a graduate of the United States Army is, that he is fit to take his post as an officer in any branch of the service, and that with very little extra training he is fit to be a staff officer. Perhaps it might

rather interest you to know that one point General Rimington has touched on here is touched on at West Point, and that is polo. Not only are ponies provided by the United States for the cadets to learn polo, but they are ordered and made to learn it as part of their training. The other college, with which I was connected, the Royal Military College at Kingston, is different. There, it is a poor country, and they have not a standing army, and there is no great opportunity for going into military life. But 30 years ago it was found that it would be a good thing for the Canadian nation to have men trained in a military way, who would be able either to take their place in the ranks of the army or to go into civil life. Out of 30 cadets who pass each year out of the College, half-a-dozen come into the English Army, and I need not point out how well those who have joined us have done. I think there is one very successful cavalry leader, Colonel Leader of the Carabiniers, who is one of them, and many others have done well. Some of them go into the Canadian Army, but the vast majority of them go into civil life. They are trained at the College, both to be soldiers and to be civilians. They are trained in civil engineering, surveying, and so forth. We find them on the great railways of Canada and the States, and we also find them in civil life as bankers, brewers, and merchants. All through we find them, and every one of them will tell you that the reason of his getting on in life has been because he has been at the Royal Military College of Kingston. When it comes to a pinch we find that the backbone of the Canadian contingent in a war is formed of the boys from the Canadian College, not only those boys who have gone into the Canadian Militia, but those who have passed into civil life, and who come back when the nation comes to a pinch. There is another point I want to ask General Rimington's opinion upon. Does he think Napoleon would approve of establishing some such college to be run on those lines, in order to form a reserve for the cavalry of England? I forgot to say that the expense at Kingston is greater than West Point. Each parent pays £60 for the first, and £50 for the second, and £50 for the third year his son is there, and the rest of the money is paid by the State. I think it costs about £80 or £90 a year per cadet to run it, the balance being paid by the State. The final point I wish to bring forward is, about the supply of officers to the cavalry. I want to know what General Rimington would think Napoleon would say about that. Would Napoleon hamper himself by only going to a certain class of people and getting his officers from them? Or would he not say that with the cavalry it is most important to have the cleverest men and the best trained, to go and lead our mounted troops? Would not Napoleon have said :—"I will not be hampered by anything; I will pay for it, and I will get the best I can." Napoleon, besides being a general, was an economist and a political economist. He would get men, and he would see that if he paid for them that he got full value out of them. What would Napoleon say? Perhaps he would say :—"Look back forty years!" I should like to see a system under which I could get men like the cavalry leader, General J. B. Stewart, who was a landowner and a rich man in Virginia; and also a system which did not exclude a poor Irish lad, like that brilliant cavalry soldier, General Sheridan.

Lieut.-Colonel F. N. Maude, C.B. (Commanding 1st Hants R.E. [Vols.], late R.E.) :—I will not waste your time by apologising for rising to speak before a gallery of cavalry officers, because I am afraid time is getting on, but I should like to call attention for a moment or two to

one or two points in General Rimington's admirable lecture. First of all, on the question of the *moral*. We have always one great difficulty to contend with, and that is the popular feeling in this country. If you kill two or three men on a field day, or break a few horses down, there is such a howl raised by the daily Press that practically the training is stopped for the year for good and all. That has happened over and over again. On the other hand, you can go out and break as many men and horses' backs as you like in steeplechasing, and the Press takes no notice of it at all. The fact of the matter is, that you may kill men for sport in England, but you cannot kill them in preparation for war. A few years ago we had a rather trying experience in South Africa, and our chief difficulty was, that our horses could not travel fast enough to catch the Boers. They might have got along all right if we had ever been taught how to manage horses for long distance rides. But there were very few long distance riders then; in fact, they were not popular in England, all such contests were held abroad. People went to these long distance rides, sent by the Press; I saw many of those gentlemen, and they really did not know one end of the horse from the other. They wrote about the atrocious cruelties perpetrated on these poor unfortunate horses. But I can say that those things never happened, for I was myself an eye-witness of the longest of these rides, *i.e.*, Berlin to Vienna. However, those gentlemen effectually knocked all training for long distance riding pretty well out of the country. It was the same with us again, after the Boer War, when we might have been expected to have learnt that it was better to sacrifice a few horses in peace than to lose many in time of war. That is one little trouble we have always got to deal with. Further, I would like most strongly to support what General Rimington said on the subject of the attestation of recruits. I think the hole-and-corner way in which a very solemn thing like that is done with us is most improper. Half the men do not know what the oath means. They swear it just as they do in the Police Court, but the majority have no more intention of keeping it longer than suits their convenience than the average "rice Christian" in the East, and they are perfectly astounded when they are told that they are liable to punishment if they break it. They do not know the sanctity of an oath. This is possibly due to some of the Board School training; and under the provisions of Mr. Birrell's Bill, matters are likely to get worse rather than better. On the general question of the lecture, the question of the spirit of the Napoleonic cavalry, I should only like to point out that this spirit was uniform all through the whole of his campaigns. From the very first, Napoleon himself and his generals meant to get on. He always meant, as General Rimington said, "to get at them." In the early part of his career he succeeded, not because he had better men and better horses; on the contrary, most of the advantages of training both of horses and of men were distinctly on the side of his opponents. But he succeeded, because his enemies did not possess the true (cavalry) spirit, and, not having that true spirit, they were most immobile and always too slow. But as soon as the conditions of war changed, and Napoleon got into country where the enemy was more mobile than his own men, then the spirit could no longer help him, as the Russians and the Cossacks could ride all round the French cavalry. There was no question of firearms in those days. We have been led to believe that the Boer war was completely conditioned by the use of firearms; but here we saw all along the Russian frontier a great army, covered by an enormous force of

cavalry consisting of 84,000 horses or more, opposed and destroyed by a very mobile screen of Cossacks, who fought them by merely appearing and disappearing. They did not do very much material harm, but they wore that cavalry out so that it was as impossible for Napoleon's French troopers, with all their spirit, to catch those men as it was for us in South Africa to catch the Boers. I think we might take some little consolation to ourselves on that point if we did not succeed out there as brilliantly as we should have liked to. If we did not end the Boer war in the few months' time that we all hoped for, it was no fault of the men who were there; it was the fault of conditions for which they were not responsible. It was not the fault of our British generals, but was simply due to the fact that all our forces had to go 6,000 miles across the sea and then to be landed in a country where the circumstances were entirely changed, the horses being landed with long coats when they ought to have had short ones, and so on. It was not their fault that they broke down, but it was due to circumstances which had never received sufficient consideration. But I do think that following on from such experiences, we might look into the causes of such deficiencies as there *may* yet be in our cavalry—I do not say there are—and ask ourselves whether we cannot in peace do something to remove the evils which still remain. I am alluding to the question of the weights carried throughout the whole of our cavalry, indeed, throughout the whole Army. Excess of weights were the chief cause of our troubles in the Boer War. We never caught the Boers, because the Boers carried nothing but what was absolutely necessary, and our men, weighted as they were, never had a chance of chasing them. Then the Boer shooting was very good. As near as we can make out, they fired about a thousand bullets for one man badly hit. Unquestionably, our men started on the average—and I lay stress on the words "on the average"—better trained than the Boers, but we took 10,000 rounds to kill one Boer, that is to say, we used up about 5 cwts. of ammunition to create one casualty. Having that experience, after the war, we actually propose to make the already great weight greater, and we proceed to put a heavier rifle into the hands of the cavalry than they had before. Then we have added another hundred cartridges to his equipment. We have also put more weight behind the teams of the artillery. In whatever we have done, we have made the whole Army slower still. I submit that the whole essence of the question is, that our generals shall be given a mobile cavalry, and one so mobile that they can choose their target, and not the other way round. When we can do that choosing, there will be no complaints about our shooting. The real secret of the better shooting made by the Boers was this:—Their superior mobility gave them the power of choosing their own target. But we might train the whole British nation to shoot at targets in peace time at ranges, from now to the end of the world if you like, and they will not make any more hits than we made out in South Africa, until they learn to move faster, and thus give our generals a chance to put the troops confided to them in such places from which the rifle can be used to the best effect. That used to be the whole essence of the regulations, but curiously, in 1898, that one paragraph on which army efficiency entirely depends, was struck out and ceased to exist. Coming now to the special side of the cavalry question, it seems to me a question whether we should not do better if we dispensed with some ammunition and went back to carbines, so that we could put a lighter weight altogether on to the horse. Then as to the saddle. That has not been changed for some years, and I should

like to ask whether we could not take that structure of iron, steel, wood and leather, and of its 28 lbs., take off some 20 lbs. The idea is, that a cavalry saddle must last for ever; it never seems to have occurred to people that though the saddle lasts it breaks down the horse, and that it is very much cheaper to buy a new saddle than to replace a horse. In South Africa the saving in this department alone would have run into about £7,000,000 sterling—I worked it out the other day; and that is obviously a consideration. We can make a much lighter saddle, and we should be able to do it, if we could only once get the Woolwich people who make the saddle to understand how essential it is that we should have something better than what we now have. Last of all, I would simplify the question of food and forage. Forage is very nearly the essence of mobility. Water, of course, is the first thing, and you cannot fight in any country where there is no water; but if you can sweep over a great wide area with your cavalry, then your chances of finding water increase as the square of the distance covered. Every well you find, and every additional puddle you find, becomes a sort of focus from which the energy of the cavalry is revived. Now, if you carry absolutely dry rations of food and forage, when you come to a well you can swell the food or ration out, and thus obtain the bulk both horses and men require. Thus, instead of carrying 7 lb. tins of bully beef, etc., you would carry about 1 lb., and thus get another half a stone off your horses, which means additional mobility and greater chances of finding the enemy, instead of being found by him. Adding all these possible savings together, I think that we might well attain that excess of mobility over our possible enemies, which alone renders the realisation of the cavalry ideal possible.

Major R. A. Johnson (1st Vol. Batt. The Hampshire Regiment):—I should like to express, on behalf of the civilian element of the population, our great indebtedness to General Rimington for the admirable lecture which he has given us; and, on behalf of the civilian element of the population, I should like to say a word in confirmation of what he has said about, what strikes me as the great problem—the problem of the reserve of officers for the regular cavalry. I may say that I am hardly entitled to speak on this matter, because I am not even a Yeomanry officer, and even if I were a Yeomanry officer, I should not, as General Rimington has told us, be fit even to lead a troop of cavalry in war. I *was* a Yeomanry officer for a very short time, and then, finding myself "too fat, and too old, and too lazy," I had to betake myself to a bicycle. At the same time, I think one's experience of active service with Yeomanry leads one to imagine that the sort of man who is now in a Yeomanry regiment might, if he were seriously taken in hand, be made quite fit to lead a troop even in the cavalry. After all, if we can't look to Yeomanry officers for our cavalry reserve, where else can we possibly get him? General Rimington has told us that he would perfer a non-commissioned officer of the Regular cavalry to act as troop leader, rather than a young Yeomanry officer. General Rimington, of course, has the very best reasons for knowing; but experiences differ, and some of us found that the Regular non-commissioned officer, who served with Yeomanry in South Africa, was generally too wooden for that display of dash and enterprise, which is the essential of a troop leader. At the same time we must all remember that since the South African War, the change in the Regular cavalry and in the Regular Army in general has been very great, and that the highly-trained troops which General Riming-

ton has under his command in Ireland, and which General French has at Aldershot, are about five times or six times as well trained as they were in the days before the war. Consequently, the superiority, which always existed and which the professional soldier, naturally, always enjoyed over the amateur, has now become a superiority out of all proportion to what it was in former times. Nevertheless, I do not see how we are going to find the reserve for the Regular cavalry, which General Rimington quite rightly desires to have, unless we are prepared to go to the civilian element of the population, and make the best of what it can give us. Nor do I quite think that the British parent would regard a military school as a suitable preparation for civil life. How then, are we to get a reserve of trained officers? The true solution of our difficulty surely lies in getting hold of the Universities. Various people have already been approaching the Universities with this object in view, and one finds that the University authorities would be very willing indeed to add to the ordinary degree course at the Universities, a course in military subjects, accompanied by a practical course of field training, given by attachments for a short time to a Regular unit. The undergraduate, who passed these courses, would get a diploma attached to his University Degree, and, of course, he would have to be rewarded financially for his trouble. Some small payment would be very grateful to an undergraduate, especially when he is going down, and his debts accumulate, and consequently, there would be many applicants for this course. But in return for the money payments, candidates would be asked to enter into an obligation, after passing the course, either to be attached *à la suite* of a regular regiment for four years, or else to go to the Auxiliary Forces. I take it that what General Rimington means, when he tells us that he cannot trust the Yeoman, is, that the present Yeomanry officer has not got sufficient grounding. But he surely does not deny that it ought not to pass the wit of man to give him this grounding. Nor I imagine would he have the slightest objection, were the Yeomanry officer properly grounded, to his continuing to do the valuable work that he already does in helping the mass of the population to do something in the way of soldiering. I suggest for the General's consideration whether Napoleon, who, after all, was not only a great soldier, but a great Statesman as well, and who, amongst other things, practically recreated the great University system of France, would not think that, having regard to present conditions in this country, it would not be possible, instead of asking people to go to a military college on their way to civil life, to take a suitable training in military subjects in the stride of their ordinary degree course at the University, and of their ordinary civil work. I think, perhaps, General Rimington was just a little inconsistent, if I may say so, in two ways. In the first place, he said that misery was a good school for a cavalry officer, and then he complained that the cavalry officer was underpaid. He also said that the nation must be cunningly stirred up by every available means to enthusiasm for the Army. I submit that the best way of all to stir everybody up to an enthusiasm for the Army is to encourage our young men to do everything that they will, and not to tell them, after all their efforts, they will not be fit to lead even a troop of cavalry. The Yeomanry ought to be, even if it is not at present, the real second line to the Regular cavalry. Hence, we must encourage them all to take advantage of every possible chance that the Regular Army will throw open to them for training themselves, not merely as Yeomanry officers but as reserve officers for the Regular cavalry in time of war.

T. Miller Maguire, LL.D., M.A., Barrister-at-Law (Inner Temple): —The most excellent lecture which we have heard is one of a series of these very improving discussions which have been inaugurated in this Royal United Service Institution, and cannot fail, in my humble opinion, to do much good, not only to each branch of the Army, but to the nation at large. I rise especially because General Rimington referred to me by name in connection with a singular incident in the life of the Prussian commander, Blücher—I mean the incident in connection with his brandy bath. General Rimington discussed Blücher's age on that occasion, and I turned to the distinguished German cavalry officer on my left, and I find that he supports my contention that Blücher was no less than 76 years of age at the time; and two days after Blücher himself was, with his own hands, helping to pull the guns to the aid of the English at Waterloo. Therefore, you and the gallant officer on your right, and myself, and others, may look forward, in spite of what Oxford professors may say, to a career of great liveliness and activity this time 20 years. Another remark: Blücher, although such a lively sportsman, that he could appreciate brandy after being ridden over in several cavalry charges, had, as the chief of his staff, General Gneisenau. At one party Blücher said, when he had about two more bottles of champagne than usual after dinner, "I am the only party that can kiss my own brains"; he made a bet on this, and went and kissed the head of General Gneisenau. But the Prussians did not come to that standard of excellence, which enabled them, with cavalry leaders like Dornberg and others, to follow the retreating French from the Oder to the Marne, and into Paris, by improvisation. They did that by self-denial, after their defeats in 1806—constant, perpetual self-denial on the part of every man in the nation; not that kind of miserable sense of luxury that we have now—in 1906. From 1806 to 1813 there was constant self-denial and devotion of men to soldiering, not to cricketing. They went in for universal soldiering, and the cult of knowledge, universal education, all pervading patriotism. They cultivated the "souls" of men from prince to peasant; they had a *Tugenbrind*. Hence, they were able to follow, with admirable cavalry arrangements, the mightiest genius of modern times, whose actions have been described by the gallant general, from the Oder to Paris. I assure you I agree most heartily with Colonel Maude that it was a terrible thing to see those poor boys of the Second Yeomanry, being trained for South Africa. We found that "sportsmen" are not horsemen. It was humiliating to the very last degree that a nation like ours should have to go and improvise the preparation of thousands of mounted men, and send them to death in consequence of our lazy, worthless games in times of peace. Can our people ride? Can they shoot? If not, why not? They can find time to look at football matches, money to spend £12,000,000 a year on golf, and £16,000 in one afternoon for gate money for "Cup finals." In spite of your being Chairman, Sir, I may as well tell you about your book on "Scouting." I bought every copy of it I could find, except a few that I left for the German Emperor, and distributed them among horsemen going to the front, who had never heard about scouting till then! We had 1,600 men in our Riding School, and hardly a single man of them could mount, or knew which side of the horse to go, or hold their rifles when mounted. They were miserably inefficient in regard to riding. Of the 1,600 there were only four who could ride properly, and they were deserters from the Royal Artillery. They asked me to say a few words of farewell, and I said:—"They call you 'the poor miserable Yeomanry on five bob a day'; all I can say

is, you are the bravest men in the world, without any exception. You do not know how to ride a bit, and you do not know how to sight your rifles, and yet you are gaily going to fight the Boers for 5s. a day; I would not do it for 50s. a day." There is no value in improvisation of ability or capacity for anyone. We are now putting the charge of the national education and the national Army in the care of two Chancery lawyers with parchment souls. Did they improvise in regard to their law? How many briefs would they get if they were improvised lawyers? And, who would go to an improvised surgeon to have his leg cut off? Would you? No, you say, certainly not. Nor would I. Is there use and improvisation in any industry? Do you remember that author in Cromwell's life who wrote about the accidents of war, and said the most admirable thing in the world:—"When you get a wild man, and a wild beast like a horse, and put the two of them together, it is no easy job to make the two go harmoniously together, and face death or mutilation"? I say your cavalry ought to be cherished by every member of the community. I am now speaking as a civilian, and I say it would be a very good job indeed if your mounted men, horse and man, were an object of affection and interest to every person in the British State. Then you would have the very first cavalry in the world. You should be proud of it. Now I will speak a word about the gallant officer who has lectured to us. The gallant lecturer practises what he preaches, which is a great deal more than many a political or other preacher does. I was with the gallant officer last summer, and, to tell you the truth, I had a pretty hard time of it. Students of history know that it is very common to censure and ridicule our own cavalry officers. If you gave me an hour, I would undertake to prove that there is not one mistake made (and I am sure Colonel Maude is with me now; I see him smiling, perhaps he knows what I am going to say) by any of our cavalry officers in any campaign since the immortal charge of Marlborough and his dauntless cavalry at Blenheim, in scouting, reconnoitring, charging, pursuing, retreating, rallying, whatever tactics you like to suggest, that I could not parallel in the annals of the French Army and the Russian Army, or if my noble and distinguished German friend will allow me to say so, in the annals even of the German Army. The country should know these truths—they are better than party and factious sophistry. Another thing I wish to say; if you take up history you will see that this is a most certain and most absolute truth—that no nation in the crisis of its life was ever able to evolve honour out of danger except with the aid of cavalry. There is not a single case in all history in which a long, protracted campaign has come to a successful issue without the aid of large bodies of cavalry; and those States which have been foolish enough to neglect cavalry in times of peace have not been able to do without it in war. There is not one case to the contrary. Alexander the Great relied on his cavalry. He could not have won his campaigns, except he had imitated Epaminondas by securing a good cavalry force before he went into Asia. When Hannibal came over the Alps he brought with him a good cavalry, and he played the very mischief with the Romans, in consequence, so that they were obliged at all costs to get up a sound cavalry force; and they carried that branch so far that by the time of the end of the Roman Republic, the cavalry officer and the cavalry soldier were great powers in the equites, knights were horsemen, and so, in the middle ages, chivalry (Cheval) and horsemanship were synonymous. But every ignorant and self-conceited fool who writes on Tactics prophesies the end

of cavalry after each new invention of the engineer. Yet, in point of fact, the cavalry have become more important after each new invention of ballistics. That was found after the invention of gunpowder, and it has been found at every step since. I will give you an example from America. From 1861 to 1864 the Federals had not a good cavalry, and they were knocked to pieces by the ability of the officers to whom my most excellent and gallant friend behind me, Colonel Reade, has referred, such as General Stewart, Nusby, Ashby, Morgan. You know perfectly well that for several years the Federals had no such General as Stewart. However, Lincoln and Grant and Sherman resolved to get a good cavalry, in 1864, and eventually they put 20,000 cavalry into the field under Sherman; and therefore, they won the war, but not till then. We were abolishing cavalry a few years ago. Yet, how many hundred thousand horses did you see in South Africa, and how many died, and how many might have lived? I will not enter into that; but at any rate, could you have finished that war efficiently without numerous mounted troops? And so, too, in the late war, the great value of cavalry was shown in the operations conducted by both the Japanese and the Russian Armies. I have spoken very long I know, and very incoherently I know, but I myself am, in a small way, a cavalry soldier. I have been seeing any amount of cavalry training, and I highly appreciate the troopers of the British Army, and I tell you plainly that the officers of the cavalry deserve more thanks than they receive. I believe that the sergeants in the British cavalry are amongst the finest set of men of their rank in the whole world. They are fine men, bold, brave, good-looking men, worthy of the highest admiration of our people. The civilian who despises our soldiery is a worthless man himself. If I had to begin life again, I would spend a considerable portion of my time, with the help of my pocket book or by the help of the State, in cherishing, studying cavalry tactics profoundly, and the company of the cavalry officers and the men of the British Army. I would consider that not only my manhood but also my intellectual tone, and my moral power and capacity for good would be immensely improved, the more thoroughly I became impregnated with cavalry skill, cavalry courage, cavalry discipline, respect, and live for my comrades' horses as well as men, and with cavalry ideals. I thank General Rimington for his lecture; it has done us all good, and I am ashamed that the despicable craze for cricket has prevented this room from being filled with an audience; but though we are few in numbers, I am sure we are all the more appreciative.

Brigadier-General M. F. RIMINGTON, in reply, said:—I have first to answer a question by Colonel Reade about education. My idea is, that we should have a school for young officers at a place like the Curragh or at Aldershot, or where we have two or three cavalry regiments, and that their education in physical science, law, surveying, and various things, which would be useful to them in their civil life, should run concurrently with their education as cavalry soldiers, and that they should have the command of men as their pastime. We can easily do this, because they will work at that age. They like work then, and that is the time to catch them.[1] I think that that would be Napoleon's view. The West Point education, from what I have heard of it, is an admirable one; and I should like to tell you, that Americans have the highest opinion of their cavalry, and speak of them as splendid fellows.

[1] It is more important for cavalry officers to learn their work whilst still young, than it is for other branches of the service.

Perhaps their education has something to do with it. I think that the younger nations of the British Empire are very much inclined to walk past us, as they are teaching the whole of their boys quite early, for instance, when they are 12 or 14 they begin in cadet corps; thus they instil the right spirit in them. The late Mr. Seddon was one of the great organisers of military sentiment in the Colonies. With regard to our system of obtaining officers for cavalry, Colonel Reade asked what class I would take. All I can say is, that in war I have been shoulder to shoulder with all sorts of people, and I found that as long as they had the right spirit in them, or had it put into them, one did not mind. You would much rather have a brave man shoulder to shoulder with you than you would have the finest fellow in the world, or the best dressed man in the world. Personally, I do not mind whom I go with; as long as he is a good man and means business. But I do not think that we will get the class indicated by Colonel Reade, because I do not think that they will come, unless they are well paid. Major Johnson said I was inconsistent, because I said poverty and misery were the school of the good soldier, whilst I suggested that officers might be better paid. But how are we going to get these good men unless we give them more pay? I think it is common sense that you must pay men according to their ability. We do not want to devote them like monks to a life of poverty and chastity. Major Johnson said:—"Would we be satisfied to take our reserve officers for the cavalry from those who had been educated at a University, or would we prefer non-commissioned officers?" and went on to say that he had found non-commissioned officers rather wooden. All I can say is, that that is not my experience of them. With regard to what Colonel Maude said. I think you can do anything you like with your horses or with your men, as long as you are acting fairly. In training cavalry, accidents are unavoidable. Colonel Maude spoke about the weight cavalry horses carried. In peace time we always increase the weight on a cavalry horse, because some of us are inventors and we invent something which we want put on the horse, and move heaven and earth to get it there. Then, of course, the moment we get on service the first thing we do is to chuck it all away, and the man goes out with nothing but his cloak, his rifle, and his sword, and half a ration for his horse. Major Johnson said:—Would I not like University men as cavalry officers? I am a B.A. myself of Oxford, and personally I do not know that I would.

Major JOHNSON:—I meant for your reserve of officers.

General RIMINGTON:—Quite so. I do not think it is a good thing to put a man in command of men before he has been disciplined himself. I think a man must have learnt to obey before he can command. Napoleon said: "*Pas de discipline, pas de victoire,*" and that is my difficulty about a University education in military science, because you want something more than that. We want practice and practical work in order to make a good officer. I was very pleased to draw such a great speech from Dr. Miller Maguire. It was an inspiring speech, and it did me good to listen to it. Dr. Miller Maguire said that every fool who writes on tactics has told us something to the effect that cavalry cannot possibly go on. The person I go to for cavalry tactics is Xenophon. You get better tips about cavalry in Xenophon than almost anywhere else; for instance, about the rally and about riding over rough country. Xenophon said:—"You must bustle your cavalry over the worst of the country, and then you will be able to beat the enemy easily in the plains."

He was a great advocate for that. I hope I have answered all the questions that were put to me.

The CHAIRMAN (Major-General R. S. S. Baden-Powell, C.B.) :—The lecturer has gone over a very wide field in the course of his paper, so that it is difficult to sum it up properly in the short time at my disposal. General Rimington makes it evident that the value of cavalry in war depends on the spirit which possesses it. The spirit in Napoleon's time was very great, and the value of cavalry was also very great. The remark which the lecturer says might have been made by Napoleon actually *was* made by him when he said : "Had I had cavalry in 1813, I could have beaten Europe." (See "Avenir de la Cavalerie," by Baron d'Azémar.) This was when Napoleon's cavalry had been destroyed, after its spirit had failed, as Colonel Maude has just pointed out, in the Moscow campaign. But it must not be supposed that this spirit only existed in Napoleon's time; it has been conspicuous at all times. Colonel Elliot would tell you that cavalry of old was termed "procella equestris," or "the mounted tornado"; and the term "to put a colon or stop on anything," was derived from the phrase, "Colophonem Imponere," which meant "lay on Colophon," Colophon being an Ionian town, which produced first-rate cavalry, who were used, when necessary, to turn the tide of the fight. It is immaterial with what weapon cavalry may be armed provided they have the spirit, and cavalry is to-day as invaluable as ever, provided that it is trained in the spirit which General Sir Baker Russell used to infuse into us, viz. : "The Hussar is made to be smart in peace, and to be killed in war." The cavalry armed as it is with the modern rifle and quick-firing guns, is stronger than of old, and its chances are at least equally good against infantry, whose endurance has to be four times as great as formerly, owing to the wider distances to be covered on the battle-field, and the days, instead of hours, which are occupied in deciding a battle; but infantry physique has not improved to that extent; short service means less discipline to counteract panic; small-bore bullets are not "stoppers"; ammunition is more liable to exhaustion; field guns are so heavy that they cannot readily get away; lines of communication are long and vulnerable; all these offer enhanced opportunities to cavalry; and it must be remembered that in any case infantry cannot, without cavalry, fully defeat their enemy, nor can they profit by their success. The value of cavalry in modern warfare is, therefore, as great as ever, and this fact has been strongly exemplified at the battle of Mukden. General Négrier says : "The Russian defeat at Mukden was complete. We may confidently assert that one of the principal causes of the disaster lay in the faulty employment of the cavalry." In this battle, Russia had 17,000 cavalry split up about the field, the Japanese had about 6,500 concentrated. As Colonel Elliott writes : "The Cavalry Division is not a net to catch sprats, but a battle-ship to strike and destroy." Defeat here, as in most cases, was due to false leading. At all times cavalry have remained much the same in the matter of men, horses, and horsemen; but in some campaigns they have failed, and in others they have brought success, and in almost every case the results have been directly attributable to the personality of the leaders—compare Cromwell, Seydlitz, Stuart, and others. Von Hoenig writes :—"It is more the want of capable leaders than defective tactics that has caused cavalry failure on the battle-field." The attributes of an ideal leader of cavalry are essentially those which a Briton possesses. Confidence in self; horseman and horsemaster; adventurous and cool-headed; quick to grasp a situation; quick to adapt himself to it; playing the game for his side, not for himself. All of these qualities are fostered

by our national sports, such as hunting, polo, big-game stalking, etc. Thus we Britons possess the best material; but we have our weak points, and an inclination to selfishness and exclusiveness is one among them. *Esprit de corps* is all very well, and, within bounds, commendable, but *esprit d'arme* is a vile, snobbish, and dangerous thing, where one branch of the service sets itself against another. It is essential that all branches pull together in war, and for that reason they must be close friends and intimate in peace; but it is not always so with us, and this is due to a want of a broader and deeper spirit which is needed among us, and which ought to be put into our rising generation as part of their education. The spirit I refer to is that of "chivalry," which was known of old as "chevalerie," *i.e.*, the attributes or spirit of cavalry. In the library of the Cavalry Club you will find a book called the "Broadstone of Honour," by Digby. It gives the whole history of chivalry, and shows, through the French writers of the Middle Ages, how England was the home of chivalry, which spread from there over Europe. Chivalry consists in absolute straight dealing; devotion to duty; patience; courage, reverence for women, and all that is best in one's country; and above all, in a continual state of readiness through due forethought and preparation to sacrifice self for the good of the whole. Is there any profession or line of life in which such training is not equally applicable and desirable? If "Broadstone of Honour" were a text book and a classic in our schools, in place of certain Greek plays, is it not possible—is it not certain—that we should have a more self-sacrificing generation arising to maintain our nation on its ancient pedestal? As President Roosevelt says:—"It is character that counts in a nation as in a man . . . . especially duty to God and to one's neighbour." If true chivalry (which practically includes patriotism) were more general among us, there would be little need to talk of conscription; every man would, by nature, try to do something for his country in the way of personal service or otherwise. Fortunately, some of the spirit of chivalry still remains in the Army, and is, I am glad to think, gradually increasing among all ranks there. Further development of it would make the Army a valuable school. General Rimington's proposition is, that boys should come for two years as cadet officers in the cavalry before taking up any profession, and they would thus form a reserve for future contingencies. But I would not limit this or any other idea merely to cavalry. I would commend a wider extension of General Rimington's idea for the mutual benefit of the nation, and of the Army at large. How would it be if all parents sent their sons from school to one branch of the Army or another as cornets or ensigns for two years of practical training in chivalry and formation of character before going to the University, or to other lines of life? *a*. There would then be no difficulty in officering all our forces, Regular and Auxiliary (which is a point of vital importance to the nation). *b*. And we should have the makings of the regeneration of our nation, which is now becoming badly needed. To sum myself up—for I have been inordinately long—cavalry is as valuable for war as it ever was, provided that its leaders have the proper spirit. This spirit is practically that of self-devotion, and therefore, applicable to all arms, and to all professions. Therefore, the Army might, with advantage, be used as a school for the rising generation. In thanking you for your attendance to-day, I would commend this proposition to your further consideration. Meantime, I think I shall be expressing your feelings if I say that our sincere thanks are due to General Rimington for having put forward the subject in so clear and interesting a form.

THE ARMY SYSTEM: ESTABLISHMENTS, RECRUITS, DRAFTS, AND RESERVES.

A Lecture delivered by Major-General H. S. G. MILES, C.V.O., C.B.,

AT THE CONFERENCE HELD BY THE CHIEF OF THE GENERAL STAFF, 4TH JANUARY, 1906.

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PRÉCIS.

GENERAL DESCRIPTION OF THE ARMY SYSTEM.

1. From the Crimea to the Cardwell Policy—1870:—The regimental system. Method by which foreign garrisons were maintained. Terms of service. Tours of foreign service. Disposition of the Army at that period. Advantages and disadvantages of the system.

2. The Cardwell Reforms:—The linked battalion system and short service. Its object. Its advantages and defects. The Childers roster.

3. The Wantage Committee and Lord Haliburton's dissent:—Increasing difficulties of carrying on the linked battalion system owing to the disparity of numbers of battalions at home and abroad.

Appointment of the Drafts Committee. Methods introduced to remedy the inherent difficulties of the system. The short tour roster. Introduction of a three years' period of enlistment by Lord Lansdowne — concurrently with the longer term — and with an increase in establishment.

4. Mr. Brodrick's Administration:—Adoption of a general term of enlistment for three years. Increase of pay. General effect of these measures. The present situation.

5. Consideration of the conditions upon which our present system is based:—Interdependence of Establishments, Recruits, and Drafts. Effect of terms of service upon the Reserve.

6. Establishments:—How different establishments affect the system. Difficulties of raising battalions from a lower to a higher establishment. Home establishments based on numbers required to find the annual draft and numbers to form nucleus of home battalion on mobilisation. Conditions of service for India. General effect of these conditions on Indian drafts and Indian reliefs.

7. Actuarial calculations showing the proper distribution of men in a battalion by years of service:—Measures that are adopted to regulate the condition of a battalion. Bounties. Conversion of service.

8. Recruiting:—The normal number of recruits required annually, on a given establishment. Disadvantages of recruiting largely in excess of normal requirements. Importance of maintaining the normal, irrespective of present strength of battalion. The numbers voted by Parliament. Effect on recruiting, of raising or lowering these numbers. Use of a "Pool."

9. Drafts:—The normal number required. How selected. Disturbing effect on drafts of changes in conditions of service. Present position as regards drafts.

10. Reliefs. The roster. How affected by Army systems. Method in which it was intended that reliefs should be carried out between linked battalions. The "turnover." Difficulties of carrying out reliefs in present circumstances.

11. Comparison of a linked battalion system with a "grouped" system. Advantages and disadvantages of the latter.

LECTURE.

I HAVE drawn up a syllabus giving you rather fully the main headings of the lecture. I am afraid I shall not have time to do more than merely touch upon them, but I hoped by making it complete it might be of some assistance to you if you wanted to investigate the subject further.

The subject is a large and, as you know, a complicated one; it is a subject that differentiates the English Army from all other armies, in which no foreign armies would have any interest, or would know, or care about, because they have little to do with recruiting, and they have to find no drafts. But it is the root matter of all English Army questions, and any system of Army organisation or of staff administration which leaves it out of account, or which fails to reckon with it, is in peril of failure. It is a subject, of course, upon which many write and more speak, but few know anything about.

1. I take as a starting point the period of the Crimean war, because it is a link between the past and the present. At the time of the Crimean war we had what was known as the Regimental System. The regiment was one battalion; it was an entity, and men could not be transferred or moved from it against their will. The regiment abroad had six service companies and four depôt companies. But it was not really so regimental as it is now, for the system by which drafts were made up was known in those days as the system of volunteering; that is to say, before a regiment came home, volunteers were called for to stay in India instead of coming home with the battalion from India; they were bountied, and thus reduced the number of men required to be sent out as drafts of their men to go to other battalions. The defaulter sheets of any battalion at that time showed the system. When I joined my regiment it comprised men of Highland, Rifle, and other regiments who had volunteered as their respective regiments came home. Therefore, it was much more an Army system than a regimental system as regards the men; but no men could be transferred against their will.

The great merit of the system was that it was elastic. Let me explain what I mean. In January, 1859—I take that period after

the Crimean war and the Mutiny—we had 132 battalions in the Army. Of these 132 battalions 102 were abroad, and 30 were in England and Ireland. Of the 102 abroad, 72 were in India and 30 in the Colonies. We had four battalions in Australia, four in Canada, three in Corfu and other stations, much the same as at present. But there were only 30 at home; of these, four were at Aldershot, eight in Ireland (four at Dublin), and the others were scattered over the kingdom. Nevertheless, it would have been easier to send three or four of those 30 battalions abroad, made up as they were under that bad system of volunteering—for it was a bad system—than it would be under our present system, where we have 71 battalions at home; that is to say, it would have been easier to have brought them up to war strength than it would be to make our present battalions fit for foreign service without calling out the Reserve.

That system went on until we come to the Cardwell reforms. The Cardwell reforms came at the epoch of the Franco-German war, and were the real foundation of the modern military system. The remarks I am about to make principally refer to the infantry; but, *mutatis mutandis*, they refer equally to the other arms.

2. Lord Cardwell's reforms may be considered under three main heads:—

Officers;
Organisation; and
Conditions of Service.

As regards officers, the great change made was the abolition of purchase, while, incidentally, other changes were introduced: examinations for promotion, abolition of ranks of ensign, cornet, etc.

As regards organisation, the depôt system was changed, and territorial districts with local depôts were created. Another change worthy of mention was the consolidation of the Horse Guards and the War Office, bringing them together under one roof. Up to 1857 command had been to a considerable extent kept separate from administration. The command of the Army was carried on under the Royal prerogative by the Commander-in-Chief at the Horse Guards, and interference by the Secretary of State or Parliament in promotion or discipline was the exception. On the other hand, the administration of the money to be spent on the Army was dealt with at the War Office. The Duke of Wellington, who had strong views on the subject, repudiated "having anything whatever to say to finance."

The bringing these two great departments, military and civil, under one roof was thought to be a great improvement, although now there are signs of a separation of purely military from administrative functions, for which there is much to be said. However, this is outside the scope of my lecture.

As regards conditions of service, Lord Cardwell introduced short service, and he linked battalions in pairs; at least, he did not link battalions, he affiliated them. They were not linked until 1881. The important point I have to make about this linking of battalions is, that with a short service system, the linking of battalions is essential. You cannot have a short service system and a separate regimental system as we had in old days; it is, under present conditions of service, not practicable. The advantage of double battalions was recognised in the Peninsula, as you may know. At that period, out of 104 bat-

talions, 71 were double; and these double battalions were formed with the same object in view that Lord Cardwell had. The reason that it is necessary to have linked battalions is this: We enlist men at 18, and they cannot go to India till they are 20, therefore we have a term varying from one to two years (some are enlisted at 19—about 50 per cent.) with which we have to deal. We cannot keep those men at the depôt. If we keep them two years at the depôt it is bad for training. Further, all men returning as casuals, invalids, etc., would have to join the depôt awaiting re-embarkation or discharge. This would congest the depôts, and if the men are in the depôts, they have not the same military value as if they are in units; the establishment of units at home would be reduced if the drafts were found from the depôts, otherwise the establishment of the Army must be increased. So that with a short service system the affiliated home battalion in some form or other—not necessarily in a link of two; it might be a wider link, or we may call it a group—is essential. This rule, we may say, is almost absolute; it is difficult to see in all the systems of depôts which have been proposed how it could be overcome. The Cardwell system furnished us with Reserves, introduced the territorial system, and established territorial units, bringing the Militia and Volunteers into contact territorially with the Regular Army.

It had disadvantages. It is the reverse of the old system—it is very inelastic. It is based on an equality of battalions at home and abroad, which, in an Empire such as ours, is very difficult to arrange. Lord Cardwell foresaw this difficulty, and proposed certain steps to meet it. When both battalions of the link were abroad, he proposed to raise the depôt to the strength of a battalion, and in certain cases to embody the linked Militia Battalion; but this was never put into effect. We all know that the territorial system has done a great deal for the Army, and no doubt it has taken root; but more so in some localities than others. We are forced to make up the local deficit by recruits drawn from other localities—that is, if we do not get recruits from one place, we must take them from another. Nor can regiments be territorialised in their stations. The depôts and populations are mainly all in the north, while the barracks at which the troops are stationed are in the south. In the Western and Northern Commands there are 26 depôts, but only five battalions are stationed in these areas. Aldershot has no depôts and some 20 battalions. So that it is not possible to territorialise the Army by stationing the regiments in their districts.

The inelasticity of the system is clearly shown by the difficulty we have had to maintain this balance of battalions at home and abroad, and in the debates of past years the Secretary of State has always said that this link-and-link relief is the basis of the system, and consequently we have at times been forced to raise new battalions. Putting aside the Guards, of which three battalions have been raised, a second battalion was given to the Cameron Highlanders and to 14 battalions, third and fourth battalions for seven regiments were raised, the object being to maintain the balance and thus to allow of link-and-link reliefs.

3. When the linking of battalions in pairs was first considered, the question arose whether a three-battalion system would not be preferable; but it offered so many difficulties that a double battalion system was adopted. The advantages of a wider link were, however,

realised, and when in 1881 an important Committee (Lord Airey's) was appointed to consider "Army reorganisation," the advisability of linking battalions in larger groups was referred to in the Secretary of State's Minute.

The linked system commenced with 70 battalions at home and 71 battalions abroad. With the wars in South Africa and Afghanistan, the disparity increased. In 1891 we had 76 battalions abroad to 75 battalions at home. In that year another Committee (the Wantage Committee) assembled. This Committee took much evidence and examined many important witnesses. Amongst many other recommendations, it proposed that permission should be given to recruit above establishment, that the general establishment of infantry furnishing drafts should be five times the annual draft; it recommended greater elasticity in establishments, a uniform establishment for battalions at home and for battalions abroad, and that equality between the numbers of battalions at home and abroad should be restored. The Committee further suggested greater elasticity in terms of service. That men of good character should be allowed to extend their service from year to year up to 12 years, or to return to the Colours from the Reserve, or to pass more freely to the Reserve.

Lord Haliburton was on the Committee, and dissented from its conclusions. He pointed out that the Cardwell system had never been fully carried out; that it had been faultily administered; and that the failure in drafts was not due to want of recruits—that is an important point I shall speak to you upon later; he added that it was due to exceptional causes, amongst them being the variation of establishments. He then went into the general question. He said that the officers never understood the meaning of short service. When the condition of the home battalion was referred to, he said, "it is understood that the home battalions cannot be efficient for war without the Reserve." He explained the effect of the numbers voted by Parliament, which is a constitutional point. As to allowing men to come back from the Reserve—a course very frequently recommended—Lord Haliburton pointed out that every time we take a man back from the Reserve we lose a man; the man is lost to the Reserve, instead of having a fresh recruit; so that that recommendation would reduce the numbers serving in the Army and in the Reserve.

As soon as the Wantage Committee had sat and reported, the whole system was overhauled, and was much more scientifically considered at the War Office—I am speaking of War Office administration. Up to that time the practice had been that the Quartermaster-General used to order a regiment to some station, which probably meant increasing the establishment of the regiment by a couple of hundred men, the Adjutant-General sent the orders and raised the establishment by a stroke of the pen (the pen and the men are different), and the recruiting branch then had to recruit that regiment up by 200 men. There are three branches at the War Office, as I daresay you know, who control the *personnel* of the Army apart from discipline; two of them are in the Adjutant-General's Department, and one in the Quartermaster-General's. The first is the Adjutant-General's Branch, which deals with Establishments. If it is desired to give an extra sergeant, or to increase the army by fourteen battalions, the question goes to that Branch. If it is decided to reduce the

Army, or to make fresh establishments for batteries armed with quick-firing guns, it is dealt with in that Branch; and the money for it is taken on a schedule, and unless the service is included in that schedule the money is not taken. That schedule is prepared in that particular Branch of the Adjutant-General's Department. It puts all regiments and drafts under orders; it posts and appoints all officers to those regiments and drafts for relief purposes. The second Branch is the Recruiting Branch. It makes units up to the required establishment. It arranges who may be allowed to convert their service; and makes the Regulations under which discharges and other variations of service are permitted.

Then the third Branch is in the Quartermaster-General's Department, and is, in our Army, in some respects, the most important of all. It is that Branch which keeps the roster, that determines moves and reliefs, and that takes up the freight and the shipping to carry out those reliefs.

The heads of these three branches formed the Drafts Committee soon after the Wantage Committee in 1892, and amongst all the changes and cataclysms which have occurred at the War Office this Committee still continues its labours; and under the present arrangement before any battalion is sent out, or any drafts are prepared, the matter is considered by this Drafts Committee, who arrange for it and decide how soon ahead we ought to begin to recruit up or to convert service. So that if there were an expedition, say, to-morrow; to choose the regiments, we should have to consult the Drafts Committee to find out which regiments should go.

The main object of the Wantage Committee was, first of all, to get the battalions into proper order—to select them for service abroad according to roster, to arrange for drafts and their date of despatch, and to ensure that there was not an undue proportion of men in any particular category of service in the battalion. The first essential was to try and remove the disparity between regiments at home and abroad. There are three ways in which this can be done. We can reduce the numbers of battalions abroad; we can raise battalions at home; and there is a third system which requires rather more explanation—that is called the short tour system. The roster was in this condition. Owing to the disparity in numbers at home and abroad, a battalion was due to go out before its linked battalion was due to come home; therefore, the link could not relieve its linked battalion. It was proposed that instead of sending out the battalion that was at the top of the roster whose linked battalion was not due to return home, to send to the Mediterranean a battalion from a long way down the roster that would not in ordinary course go out for 12 or 13 years. It was sent out and the battalion at the top of the roster was kept at home until its linked battalion became due to return home, when "link" relieved "link." That was the short tour system. It was very much criticised at the time, and everybody said it was a makeshift. That was in 1892. That system went on without much change all through those years we were trying to get battalions right and still the difficulty exists. The original intention in the relief of linked battalions was that the battalion going out took about 400 or 500 men with it, and it would take over from the link the numbers necessary to bring it up to the establishment, and the battalion coming home would take over the débris left behind by the regiment going out, that débris consisting of men too young or too

near the expiration of their colour service to go abroad. This transfer of men from one battalion to another is technically known as the "turnover." We do not send men to India with their units with less than two years to serve, nor those under 20 years of age, nor men having less than six months' service.

4. Lord Lansdowne made the next great change. He introduced the three years' system concurrently with the seven years' system; that is to say, when he had enough seven year men to find the drafts he proposed to enlist men for three years. Mr. Brodrick then introduced the three years' term of enlistment generally for the infantry. It is worthy of remark that the three years' system, which certainly has not been very successful, was fully discussed by Lord Wolseley and the Duke of Cambridge on the Wantage Committee. Lord Roberts had expressed himself in favour of enlisting men in the first instance for three years with the Colours and nine years with the Reserve. Lord Wolseley [1] said that he would enlist men, I do not think he actually said for three years, but that he would let them go to the Reserve after three years; then, when he was asked, "How would you find the Drafts?" He replied, "You must pay them, so much extra per diem when abroad to make it worth their while." The Duke of Cambridge, on being asked what he thought of Lord Roberts' recommendation, said he did not agree with it for "The worst thing you can do is to enlist a man for three years and expect he will re-engage to go on. He will not. He will not change his mind after he has entered the Service; he will go even if ruin is staring him in the face."[2] The Duke said he would never enlist a man for a less time than he intended to keep him.

The three years' system was introduced in April, 1902, and with it the pay was largely increased. It was the actuarial calculation when Mr. Brodrick's system came into force unless 71 per cent. extended we should not find the drafts except by sending out the three years' men unextended. As a fact, from 20 to 30 per cent. extended, and so the drafts have to go short or the three years' men must be sent out. And the three years' men are being sent out with only one year to serve in India.

The nine years' system was introduced in September, 1904, but no recruiting of nine years' men can, for a period of years, overtake the efflux of men caused by the passing to the Reserve of the three years' men, especially in view of the heavy recruiting of the three years' men. So that we are in this position: that the deficiency cannot be made good by recruiting, and it is to be borne in mind that recruits obtained in one year are not of sufficient age to be available for drafts in that year; that unless men extend voluntarily, or bounties are given, the drafts in succeeding years cannot be found: that these drafts are abnormally large, for various causes, one cause being the number of men who were extended during the war, and are now falling due to go, which adds to the waste; that in a period of years, we shall overtake the deficiency, but meanwhile, unless we bounty or take other steps there will be a deficiency of drafts. This is the general situation.

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[1] Wantage Committee, Q. 4,430.

[2] Wantage Committee, Q. 2,056.

Well, I have endeavoured to run through what I have called, if you will look at the Syllabus, the main principles underlying the Army system. In the remaining paragraphs, commencing at paragraph 5, I deal more particularly with the details and the working of the system. These details were really the outcome of the Wantage Committee and of Lord Haliburton's dissent, and the experience which has been gained since.

5. The first point is the interdependence of establishments, recruits, and drafts. It seems almost a platitude to say that the higher your establishment the more recruits you want, and the larger your drafts, the higher the establishment must be, and these conditions are affected, of course, by the terms of service. The shorter your term of service, the larger your drafts, the larger possibly will have to be the establishment, and the larger will be your Reserves. The longer your term of service, the smaller will be your drafts, and the smaller, perhaps, will be the establishment within certain limits; on the other hand, the less will be your Reserves. There has been a constant desire first of all to have a large Reserve and short service. Then it is discovered that we cannot find the drafts. So it is said: "We must have longer service in order to find the drafts," which in turn reduces the Reserve. Thus the elementary conditions of the problem are frequently lost sight of.

6. Now we come to Establishments. Of course, as long as the establishments are normal we only require the normal number of recruits to keep up those establishments. But if the establishment varies we immediately produce a different condition of things. At the time of the Wantage Committee there were eight battalions on the higher establishment of the Army: 921 rank and file each—they were kept two years at that establishment, and then they went abroad; and the rest of the Army was on an establishment of 721 rank and file. The object of those battalions of 921 was to make what is called a "striking force."

The difficulty of the system of different establishments at home which led to its abandonment may be thus described:—

When it became the turn of the battalion of 721 rank and file to be raised to 921 rank and file, it required in the year in which it was so raised an undue number of recruits. The ordinary number such a battalion would receive yearly to repair wastage and to find drafts for the battalion abroad would be about 280 recruits, and it would require a further 200 to raise it from 721 rank and file to 921 rank and file. In that year it would consequently require nearly 500 recruits. It is clear that a battalion so constituted was in no way a striking battalion in the sense meant by that term. Such a battalion would not have had more than 400 or 500 men fit for service abroad, in fact, it was not in any way more fitted for service than the battalions of lower strength.

There is thus an inherent difficulty in providing a striking force for service when it is not intended to call up the Reserves. It is not practicable to effect it by a higher Peace establishment, and to meet it we have Section A of the Reserve, which, as you are aware, is enlisted and kept for the purpose of raising regiments without what is technically known as calling up the Reserves. We have about 4,000 men in Section A; we have about 75,000 in Section B, and

about 15,000 in Section D—so that the Reserve now is comparatively very strong. Lord Haliburton pointed out in his minute of dissent the difficulties imported into a short service system by varying establishments. Up to that time we had several establishments; in 1873 there were three rising from 520 to 820, and in 1881 there were five which began at 480 and went on in stages up to 800. Then eventually they were brought down to two, viz., 921 and 721; and since the Haliburton dissent on the Wantage Committee all battalions at home are on the same establishment, which is now 750 rank and file. I may mention that it is convenient in these questions to compute by rank and file. If warrant officers and sergeants are added, the establishment (other than officers) would be about 803, so that if we are dealing with the total numbers and we find they do not tally, we will very likely find that in one case the rank and file is meant and in the other the total establishment, which makes a considerable discrepancy.

But even now we have the same difficulty of variation in establishments. In 1904 the establishments in the Colonies were reduced to 776, while the Indian establishment is 940, so that we have to raise regimental establishments to go on from one station to another. It is said: "Why do you have these high establishments?" and our friends the Germans are always quoted: "Why do you not have a battalion of, say, 550 rank and file?" There is only one answer: the minimum establishment is fixed on the minimum number that will find the drafts and leave an efficient cadre. In most of the pamphlets that you receive "with the author's compliments," you will find this essential point overlooked. The writer shows, perhaps, an army of 250,000 men, but you will see that the provision of drafts is left out of account, or that he has large depôts, which means, of course, an enormous addition to the numbers in the Army.

The important question which constantly arises is: What must be the minimum establishment of a battalion at home? Roughly speaking, the necessary establishment is five times the draft. The average draft is 150 men—that is the normal. But, as besides the draft-finding numbers in the battalion at home we must have a proportion of old soldiers, we must take sufficient recruits not only to find the draft but to supply "old soldiers" to form the home battalion; that is a very important point. We have always looked upon it from the Adjutant-General's point of view that we must have 300 men who do not go out as drafts, but will be with the home battalion, upon which you may mobilise if you call out the Reserves. This necessitates a total establishment of about 750 R. and F. So that the recruit who comes up really goes into various categories. Some go to find the drafts for India; some remain in the home battalion, and keep it up—making the nucleus of old soldiers which is necessary to make an efficient home battalion, and the remainder "waste" away. If you take every available man and draft him abroad, you ruin and cripple the home battalions. There is frequently great pressure put on us to do this in order to maintain establishments abroad. But to do this is really "killing the goose with the golden eggs," and it was this process to which Lord Wolseley referred when he used the term you so often see quoted, viz., the "squeezed lemon."

7. Let us now consider the proper distribution of men in a battalion by years of service.

The object to be attained is to take such a proportion of recruits each year which shall suffice:—

1. To maintain the home battalions, allowing for the usual waste;
2. To find the draft for the linked battalion abroad;
3. To provide in the home battalion a proportion of "old soldiers," to render the battalion efficient, forming, as it were, the nucleus upon which the Reserves form when called up.

The number of recruits to be taken annually was carefully gone into by the Wantage Committee, and it was calculated that to fulfil the purposes mentioned—to maintain a battalion at a sufficient strength to find a draft of 160 men for India—we must take annually about 283 recruits. This was calculated for a battalion of 721 rank and file, the terms of enlistment being seven years with the Colours and five in the Reserve.

The "actuarial" state of the battalion would then be:—

In their first year of service	-	-	283 men.
,, ,, second ,,	-	-	153 ,,
,, ,, third ,,	-	-	69 ,,
,, ,, fourth ,,	-	-	65 ,,
,, ,, fifth ,,	-	-	61 ,,
,, ,, sixth ,,	-	-	48 ,,
,, ,, seventh and upwards	-	-	44 ,,

This would give a battalion in a sound condition. The draft is taken from men of sufficient age in their first year's service, from men in their second year, and sometimes from men in their third or even their fourth year. After that they are not available as drafts, as they cannot give four years' service in India.

Suppose an undue number of recruits—say, 400—are taken in one year, all the succeeding categories will be swollen. To keep within the establishment there will be room for fewer recruits than are required, and the numbers of men in their third and succeeding categories will give an unduly large proportion of "old soldiers."

If too small a number of recruits are taken, the draft cannot be found without unduly depleting the battalion of the men who should remain with it to form the nucleus beforementioned.

There are three ways in which these categories of service may be regulated:—

a. By the intake of recruits.
b. By bounties to men to extend their service.
c. By conversions of service, that is, allowing men to pass prematurely to the Reserve.

a. The first method is that ordinarily applied, and it is the popular remedy for all deficiencies of establishment; but it is the wrong one in many cases.

b. Where you have an undue number of men passing to the Reserve in a given year, and where you have a sufficient number of recruits, but are still below establishment, the correct remedy is to give bounties to men to extend their service.

Bounties are much spoken and written against, but they are a necessity, especially as long as each Administration introduces new terms of service.

c. Where the battalion is over establishment, but there is still wanting the proper number of recruits, or when an undue efflux to the Reserve in a particular year is foreseen, "conversion" to the Reserve is the correct remedy.

8. We will now consider recruiting generally. The numbers of recruits required annually depend upon the establishment to be maintained—and upon the terms of service. With our present Army Establishments, and with a nine years' system, we require, according to the actuaries, about 21,000 recruits for the Infantry of the Line annually. As I have pointed out, in the case of a battalion, if we take an undue number of recruits—say 28,000—they would pass away in the same year, and cause this undue demand to recur when their time was up, thus perpetuating the evil. We should, therefore, work to a normal, so that each battalion may receive regularly its proper proportion of recruits, and this should be approximately maintained, whether the Army is above or below establishment.

The establishments are voted by Parliament in the Annual Estimates, and these numbers constitutionally must never be exceeded. From this it follows that our highest numbers in the establishment are in August, just before the drafts embark for India, then from September to February, that is during the trooping season, the numbers steadily fall as the drafts on embarkation are struck off the British Establishment. At the conclusion of the trooping season the numbers rise until the following September.

It is thus clear that throughout the year the Army is in strength below the numbers voted by Parliament, and the only way to maintain the Army at that strength would be to enlist above that establishment in the summer, which is not permitted.

To enable us, however, to continue recruiting in battalions, which are up to establishment, but which require recruits, we take, in Army Estimates, a certain number of men in addition to the establishments of units, but included in the numbers of men voted by Parliament.

This number can be applied as occasion requires, and gives us some elasticity in administering the establishments, and in keeping recruiting open for such battalions. It is known in the War Office as "the Pool."

This question of establishments of units is very imperfectly understood. It affects the whole system of administration, recruiting, drafts and Reserves, with which, as explained, it is inseparably bound up. A sudden reduction of establishment stops recruiting, while an increase necessitates a large addition of recruits in a particular year.

Let me give you an example. In 1903-04 the establishment of the Army was 172,342 men. On the 31st March, 1904, that is the end of the year 1903-04, we were 3,423 under that establishment. The Secretary of State reduced the establishment for the following year, and on the 1st of April, 1904, that is, the following day, when the new financial year begins, the new establishment is 166,896. So that, instead of being 3,423 under the establishment, we are 2,023 over the establishment. The effect of this is that recruiting is stopped—that is, it must be restricted in order to reach the lower establishment.

9. The book I now give you is the Rank and File Return which we make up at the War Office from the monthly return of units. It shows the state of units by categories of service. It is

the book upon which all drafts and reliefs are worked out, and which forms the basis of recruiting requirements. At the War Office, this return is carefully supervised, more so, I think, than in the commands, where its importance is often insufficiently realised. The numbers reported are carefully watched—and although they are constantly changing, it is not difficult to trace serious mistakes, such as where it would appear that some men must have increased in one year their service by two years.

I think my meaning will be clearer if we can take some particular examples. If we turn to page 48 of the Return (*vide* attached slip) and look at the Devons half way down the page, we see the establishment is given in the first column, 750 at home, and 940 in India. Then I want you to look at those end columns under page 49, "wanting to complete," "supernumeraries"—that is the number they are short of or over establishment. Then the depôt—we count the home battalion and the depôt as one, because the men, when recruits, are in excess of the Depôt Establishment. To take an example—we see the first battalion of the Devons is 201 rank and file over establishment in India; we have drafted that regiment over establishment to get rid of men in the home battalion, it takes them off our establishment and enables us to take more recruits. Now look at the battalion at home; they are just about up to the establishment; it is 9 short—that is nothing. We see how many recruits it has; it has 137 under one year enlisted for nine years, and 58 at the depôt, call it 190 men. They want another 100 at least. They are, however, over establishment now; they are 200 over in India. But we should not stop recruiting for that regiment; we should go on until they have as many as they want. If we look at their draft requirement, the ordinary normal draft on the system worked out would be somewhere about 150. But the drafts now are in an entirely abnormal state, because we have some of these three years' men out there for one year; therefore, anything like the normal draft is a mere academic expression at present, though it may get right in time. If we look at those to complete eight years extended, that 61 and that 119 will practically come home this trooping season, for we do not leave a man in India after his time has expired—we anticipate it; that is to say, in this trooping season we shall bring home all the men due to come home up to next September. They will want a draft—not so very much because they have a little over, but they will want a heavy draft because we see the numbers behind the 119—208 and 163—they will be passing off in the following years. Now the men who enlist now do not find this year's draft, they find next year's draft; a certain proportion find this year's draft. Of 100 men who are enlisted in any year, perhaps 50 might be able to go in that year's draft; but the rest will be under age; that is to say, under 19. That is about the proportion.

So let us consider the home battalion. There are 152 men in one category and 77 in another—men who will shortly pass to the Reserve unless they extend. The battalion was at that date practically up to establishment, but we should continue to recruit for it, in view of the wastage that is before it, and this power to do so comes from what I have described as the Pool. Thus you will see that although a battalion with the depôt may be up to establishment, it may be necessary to recruit for it; and a regiment may be, on the other hand, below establishment and nevertheless not require recruits.

Now turn to page 56—look at the Berkshire Regiment—that is a regiment with one battalion at home, and one in the Colonies. The establishment of 766 is the Colonial Establishment—this is rank and file, you remember; and the home battalion is 750. The battalion in Egypt is 199 over strength; that is because it is going on to India. The Drafts Committee have selected it for India, and it is being made up for that reason, as the establishment in India is 940 rank and file, and this shows the difficulty of variation of establishments, which is that, in addition to its ordinary draft, it has to be suddenly raised from 766 rank and file to 940 rank and file, of whom no man should have less than two years to serve.

Notice the home battalion. It has a most insufficient number of recruits, and at the same time it is with the Depôt practically up to establishment, within 30 of it. It has only 120 recruits, and it wants 160 more. Then turn to the Nottinghamshire and Derbyshire, and you see the same thing there. That battalion is going from Singapore to India. We have got it up to 843—that is 77 over establishment; it has to be made up to 940; it wants another 100 men, and is short of recruits. But now look at the state of that regiment. You see the one to three years' men. There are 400 men to pass off next year, and when those 400 men pass away the battalion will suddenly fall below establishment. The cure is to steadily recruit this battalion, giving it the full normal number of recruits, although it is already up to or over establishment. Of course, in your commands you know these numbers, but we watch this, I was going to say, all day long, and if we watch these numbers we can see how recruiting is to be administered in order to bring the battalions into proper condition as regards categories of service. Those two cases of regiments, the Berkshire and the Nottinghamshire and Derbyshire, are examples of battalions going on from a lower establishment in the Colonies to a higher establishment in India, and the difficulties we have to contend with.

10. I do not think I have much to say about reliefs. The original idea was that link should relieve link, and that there should be a turnover, and in fact the whole system is based upon that. For that, as I have explained, we cannot now provide as we should wish; but I might say a few words to you about the old roster or rolster; in the old books it is called a rolster. The old Quartermaster-General's rolster was, up to Mr. Childers' time, perfectly straight and clear and simple, and very accurately kept, and it was treated as the most secret of documents, and was regarded with veneration. Under it regiments used to go abroad in turn, and some of the histories of regiments are very interesting. One regiment was 13 years in Mauritius, from 1819 to 1832. I think another regiment was over 20 years in Australia. But when we linked the battalions we had to provide a new roster so as to arrange for link relieving link, and everything had to be changed. But the Childers' roster—a very interesting roster, which closely affected the whole of these questions—was framed on a new system. His plan was to separate the Colonial from the Indian roster, so that if a regiment went to the Colonies it never went to India on that tour; and if a regiment went to India, it never went to the Colonies on that tour. In the next tour after it came home and went abroad again, it went to India or to the Colonies, as the case may be. There were many

advantages in this system; but it broke down, and now the battalions go on from the Colonies to India as occasion requires.

11. If we take our Army system as a whole, and compare it with the system that preceded it, the great difficulty is that it is inelastic, and we can see from what has been said that, at least, it is not easy to work—it is administratively complicated. But it has many advantages which cannot be lightly dismissed. It is really the most regimental system we have ever had—that is to say, the interchange is between the two territorial battalions. It has grown into an Army system which it is difficult to disturb without grave objection, and, possibly, discontent. It is territorial, and has taken firm root. At the same time, all Army reformers, I think I may say, who have been at the War Office, and all the highest officers, possibly Lord Cardwell himself, saw the advantages of a wider link, that is to say, instead of having a link of two battalions, having a link of a larger number. The difficulties are, that it would disturb the territorial system, and that it would disturb, perhaps, the regimental feeling; but, administratively, there is no doubt about its advantages. The question is, whether we can alter or develop it in such a way, without undue disadvantage, as to improve the existing condition of things. The group system means, of course, a widening of the link—that is to say, a territorial corps, instead of two, would consist of four battalions, or six, or eight, or any number thought best. You know what we mean by a corps. The Act defines a corps to be a corps as defined in the Royal Warrant; the Royal Warrant defines what a corps is; therefore, by Royal Warrant, without any amendment to the Army Act, we could make the whole of the infantry into a corps: the machinery is perfectly simple, and, as a matter of fact, as you know, it is sometimes put into operation. But let us consider for a moment the advantage in organisation of large administrative bodies —it does not matter of what branch. When we have an organisation in small administrative bodies, the parts of which are not interchangeable, we have not anything like the advantages that we have with a large body, the parts of which are interchangeable. Look at the Navy, they have no such difficulties as ours. They can send 50 men to one ship and take them out of it and put them in another. See how they deal with their officers. They are one whole—the difficulty of the non-interchangeability does not arise with them; they do not know what it means. Take a large body like the Marines—they have in the same way an enormous advantage that we do not possess. Take the Artillery—they are the Royal Artillery, and they have the same administrative advantages, but their administrative advantages are, to a certain extent, reduced by the fact that an artilleryman may be a gunner or a driver (who is quite a different person), and that there are different branches of the Artillery. But take that other considerable arm of the Service, the cavalry. We have made them into corps for the last twelve years or more. I think we did it in 1891 or 1892, and we have a corps of Lancers, a corps of Dragoons, and a corps of Hussars, and we enlist men for the Lancers, we enlist men for the Dragoons, and we enlist men for the Hussars—and they have never said a word. So this proposal to widen the corps, and the degree in which it would be bad, and its effects would be felt, depend upon the degree and the skill with which it is successfully administered. We could administer a group so that they would hardly know it, and we could administer a group so

that it would cause the gravest discontent. Very much depends upon the way the numbers are studied, anticipated, and prepared, so as to avoid to the utmost degree (as I think we did in the cavalry) ever making use of the weapon that we have of taking a man from one regiment and putting him into another. It is only in extreme cases, when it cannot be helped, that that should be done.

The Territorial system is the great argument, no doubt, in favour of not disturbing the present system; but just consider for a moment what the Territorial system is. The Territorial system generally rises to people's minds as a county system. But it is not; it is only partially so. Take Ireland, there is only one county regiment in Ireland, the Royal Dublin Fusiliers; we have the Munsters, the Connaughts, and the Leinsters, and the Royal Irish Fusiliers, and the Irish Regiment. Take Scotland, there is only one county regiment, the Argyll and Sutherland; the others are named after the clans, &c.: the Gordons; the Camerons, the Royal Scots, the Royal Scots Fusiliers, and others. But there is nothing very territorial about it as regards Scotland. Or take the Welsh. There is no county Welsh regiment. We have the Royal Welsh Fusiliers, the Welsh Regiment, and the South Wales Borderers. There are 45 county regiments in England, but of these many are not really territorial, only partly territorial. Take, for instance, the Royal Fusiliers; it is at Hounslow, and it is a London regiment; but there is no particular territorial tie between the Royal Fusiliers and Hounslow. The Manchesters are at Ashton-under-Lyne, and they recruit from Manchester and the neighbourhood. The Lancashire Fusiliers are some distance from Lancaster, they are at Bury; but there is no particular affiliation with Bury. Some regiments, no doubt, are strongly territorial. It is an undoubted fact that in some counties the territorial feeling is extremely strong, but it varies. Now supposing that we made a link (just let me give an example) of the four West Country regiments, the Devons, the Somersets, the Cornwalls, and the Dorsets, how would it work? The object of such a link is this. Supposing we link eight battalions you could send five abroad and keep the other three at home, and three could supply five, and we would get great economy from that. Or supposing we had five regiments linked, we could supply three from two. We get administrative advantage at the expense, say, of a sentimental disadvantage. A man would enlist for the Devons and he would go to the depôt at Exeter. Supposing both the Devon battalions were abroad, the man could not stay at the Exeter Depôt for two years—he must go to the affiliated battalion until he is ready to join the Devons, that would have to be the Somersets, if they were at home, or the Dorsets if they were at home. Then he would finally go to the Devons, and he would not leave the Devons unless the Devons were relieved abroad while he was in them by another regiment before he was within two years of the expiration of his Colour Service. That is the way it would work. That would mean transfer, but the degree to which transfers would be necessary would much depend upon the administration of the system. Of course, we would get much greater elasticity and we would get much greater power of making a striking force; at the same time we would weaken the territorial feeling. There are obvious advantages in the greater elasticity, and it would be better for the non-commissioned officers who have been a long time abroad; we should be able to bring them home more easily, which

we cannot do now. There is one other point which does not affect this lecture, that is that the promotion of officers would be more equalised. Probably larger depôts would be required, but not necessarily, and a saving would result in money, but not so large a saving as is generally thought. Personally, I am in favour of the group system, but it is most important that officers should understand both sides of the question for the change is an important one, and I think very likely it will come.

Well, I think those are all the remarks I have to make, and in question, for the change is an important one, and I think very likely is the bed rock of all Army administration; and on it must be built the fabric of the British Army. Take the excellent work which the General Staff are now doing, now that they have time to do it, and which, after all, is the most important work of the Army—take training. Suppose it is desired by those responsible for training to send a certain cavalry regiment to Aldershot. It may happen that the Adjutant-General has to point out that that regiment goes to India in the following year, and that consequently it is practically useless to send it there. For it has to be prepared for embarkation, that is, men who by service are ineligible for India are passed to the Reserve, and recruits enlisted in their place; while, in the following drill season, the men will go on furlough—in June, July, and August—preparatory to their embarkation in September. Or, again, we have heavy batteries, and it is desired to give them horses. But we say at once you must not give them horses; they are enlisted for dismounted corps—Garrison Artillery—and they cannot be used with horses against their will. They may, if they like, but you cannot make them. In the case of mounted infantry, we have specially to obtain the man's consent in an attestation sheet. Or take a more important question than either—take the training of Reservists. I cannot imagine that there is anyone here who is not in favour of training Reservists. But it would have a very unfavourable effect on recruiting. If we take away those men from their employment for a month, there is little doubt from what the employers say that it would prejudicially affect the employment market, and thus indirectly affect recruiting. In short, although it is a fact that efficiency and training are first (and in other armies there is no question about their being first), in the case of our Army, expediency frequently has to take precedence of efficiency, because the first essential is to have an army to train and make efficient. This is the root of all Army Administration with a voluntary system—Regulars, Militia, and Volunteers—and must always be reckoned with. Or take operations. Those charged with higher operations think in Army Corps; they require Army Corps for the defence of the Empire. The General Staff, rightly and properly, work up to what they consider necessary, and the General Staff say what they want. It is the duty of the Adjutant-General's Department to tell them what it can give them. We keep a bank, you know, in the Adjutant-General's Department—our bank is a bank of men—and we do not let anyone overdraw his account. And in every department this question of men and conditions of service is uppermost.

That is all I have to say, and the only point I have to make about it is this: that whatever staff we are on we must understand and appreciate the work of the other branches, so that we may be able, working together, to add to the efficiency of His Majesty's Army.

Establishment.	Order on Roster for Home.	Order on Roster for Abroad.	Corps.		Re-enlisted.	Original Engagem									
						For 3 Years.				For 7 Years.					
						Under 1 Year.	1 to 2 Years.	2 to 3 Years.	Over 3 Years.	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	5 to 6 Years.
940	16	...	Devonshire ...	1st Bn. ...	...	2	66	14	...	1	1	1	...	2	6
750	...	16		2nd „ ...	7	9	152	77	...	1	...	...	3	10	7
50	...	...		Depôt ...	...	...	...	...	...	...	...	...	1	1	...
766	44	...	Royal Berkshire	2nd Bn....	...	...	48	124	7	...	...	2	4	1	7
750	...	44		1st „	...	10	209	79	...	1	...	...	...	3	6
50	...	...		Depôt ...	1	...	3	3	..	1	...	...	1	1	...
766	48	...	Nottinghamshire and Derbyshire ...	1st Bn. ...	...	1	55	102	13	...	...	2	6	9	6
750	...	48		2nd „ ...	...	12	410	75	...	2	...	...	2	4	6
50	...	..		Depôt ...	...	...	...	1	7	...	...	...	...	2	3

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Past Services.																							
Short Service.																							
iginal Engagement.												Extended.											
For 7 Years.						For 9 Years.					To complete 7 Years.				To complete 8 years.								
3 to 4 Years.	4 to 5 Years.	5 to 6 Years.	6 to 7 Years.	Over 7 Years.	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	Under 5 Years.	5 to 6 Years.	6 to 7 Years.	Over 7 Years.	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	5 to 6 Years.	6 to 7 Years.	7 to 8 Years.		
...	2	6	9	4	...	...	...	...	...	...	...	...	1	...	6	67	148	163	208	119	61		
3	10	7	6	...	137	...	...	...	...	...	...	...	...	...	21	40	35	17	11	10	10		
1	1	...	...	...	58	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	1		
4	1	7	7	8	41	...	...	...	...	...	...	...	...	2	75	69	83	115	122	94	61		
...	3	6	4	...	85	...	...	...	...	...	...	...	...	1	32	27	19	36	23	18	13		
1	1	...	1	...	46	...	...	...	...	...	...	...	...	...	...	2	2	5	2	...	3		
6	9	6	2	8	...	...	...	...	...	...	..	..	...	...	2	31	95	159	116	103	13		
2	4	6	2	...	166	...	...	...	...	...	...	...	...	2	31	35	34	24	9	6	2		
...	2	3	6	1	47	...	...	...	...	...	...	...	...	...	..	..	4	2	...	3	6		

Past Services.

Short Service.

inal Engagement.											Extended.														
or 7 Years.					For 9 Years.					To complete 7 Years.				To complete 8 years.								To complete 12 Years.			
3 to 4 Years.	4 to 5 Years.	5 to 6 Years.	6 to 7 Years.	Over 7 Years.	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	Under 5 Years.	5 to 6 Years.	6 to 7 Years.	Over 7 Years.	Under 1 Year.	1 to 2 Years.	2 to 3 Years.	3 to 4 Years.	4 to 5 Years.	5 to 6 Years.	6 to 7 Years.	7 to 8 Years.	Over 8 Years.	Under 10 Years.	10 to 11 Years.	Over 11 Years.	Under
...	2	6	9	4	...	...	...	...	...	...	...	...	1	...	6	67	148	163	208	119	61	...	76	55	22	2
3	10	7	6	...	137	...	...	...	...	...	...	...	...	...	21	40	35	17	11	10	10	...	16	6	6	4
1	1	...	...	...	58	...	...	...	...	...	...	...	...	...	...	...	...	1	1	3	1	...	6	...	1	..
4	1	7	7	8	41	...	...	...	...	...	...	...	...	2	75	69	83	115	122	94	61	...	29	2	1	4
...	3	6	4	...	85	...	...	...	...	...	...	...	...	1	32	27	19	36	23	18	13	...	11	1	2	5
1	1	...	1	...	46	...	...	...	...	...	...	...	...	...	...	2	2	5	2	...	3	...	4	...	2	
6	9	6	2	8	...	...	...	...	...	...	..	..	...	...	2	31	95	159	116	103	73	...	28	3	3	2
2	4	6	2	...	166	...	...	...	...	...	...	...	...	2	31	35	34	24	9	6	2	...	11	..	4	4
...	2	3	6	1	47	...	...	...	...	...	...	...	...	...	..	..	4	2	...	3	6	...	5	3	2	...

THE VON LÖBELL ANNUAL REPORTS ON THE CHANGES AND PROGRESS IN MILITARY MATTERS IN 1905.

Précis from the German by LIEUT.-COLONEL E. GUNTER, *p.s.c.*, *(late) East Lancashire Regiment.*

PREFACE.

THE Editorial Staff think it desirable to point out that these Reports give much more information than is indicated by their title, as they not only furnish an account of the changes and progress in military matters, but also (in Part I.) details of the strength and organisation of the different Armies at the present time. All European States and certain others beyond Europe are in turn treated of as interest in them is aroused by current events. The Reports, which are compiled from information supplied by correspondents living on the spot, may be relied on as containing the most trustworthy information.

In this year's volume, reports on China (the Army of which State is in process of re-organisation), of Morocco,† Peru,† and the United States† will be found. No report can this year be furnished as to the reorganisation of the Japanese Army, as all details are being kept secret at present. It is, however, hoped that next year we may be in a position to give this information.

In Part II., Reports regarding the various methods of military communication are included. These are of increased importance in modern war. Those on military scientific appliances are enlarged.

In Part III. the events of the past year in different theatres of war are very briefly epitomised. The little-known campaign of Turkey in Yemen is of especial interest, as it leads to a better appreciation of Turkey's war strength, which is sometimes underestimated.

PART I.

ORGANISATION.

CHINA.

The reorganisation of the Chinese Army, which was sanctioned early in 1905, contemplates the formation of 36 divisions armed and trained according to modern ideas, and each to consist of 10,000 men in round numbers. It is, however, calculated that this will take 17 years to accomplish.

† Space considerations forbade epitomising these to the exclusion of other matter of more interest to British officers.—E.G.

Up to the present, 6 divisions have been formed in Tschili and Shantung, all under the supreme command of the Viceroy, Yuan-Schi-Rai, which form the nucleus of the reorganised Army.

Each division consists of:—

2 Infantry Brigades, each of 2 regiments, each of 3 battalions.
1 Cavalry Regiment of 3 squadrons.
1 Artillery Regiment of 2 Field Artillery and 1 Mountain Artillery Divisions, each of 3 battalions of 6 guns each.
1 Engineer Battalion, 4 companies.
1 Train ,, ,,

The total strength of these divisions is about 60,000 men and 200 guns.

The divisions are stationed as follows:—

1st, at Paotingfu, in Chili.
2nd, at Yungping ,,
3rd, at Paotingfu ,,
4th, at Matschang and Hsiaushan, in Chili.
5th, at Tsinaufu and Tötschu, in Shantung..
6th, at Haitse, near Peking, in Chili.

Each battalion musters 600 men, each squadron 200 to 250, artillery divisions 300 to 400. The battalion has 4 companies, the squadron 4 troops; excepting for Manchus, service is voluntary. The Reservists of the 1st Division are all Manchus. Service lasts for 10 years: 3 with the colours, 3 in the Reserve, and 4 in the Militia; re-engagement is allowed. Recruits are taken from 20 to 25 years old and over, 1·60 mètrés (5 feet 3 inches) in height. Eyesight and bodily strength, also marching capacity are tested, and must be good; opium smokers and criminals are not taken.

Non-commissioned officers and men who have served their 10 years are eligible for appointment as officers of Reserve and Militia.

At present the Japanese system of training is exclusively followed; Reservists and Militia train for 30 days in each year.

Officers are trained in the new Military Schools.† The students are in similar positions to German cadets. General knowledge, foreign languages, and military science and drill, etc. are taught. The course lasts for five years,†† and cadets may enter between the ages of 18 and 25.

A Higher War School is to be erected in Peking for the further training of officers, the course lasting 3 years.

At the manœuvres held in 1904 and 1905 the impression made on the foreign officers was good, their exercises, and especially their discipline, being praised. Their uniform is of European pattern—khaki in summer and of dark cloth in winter. The head-dress in summer is a straw hat; in winter helmets will be worn. Each

† Mention is not made of the new Elementary Military Schools for boys, which are to be shortly established, with 3-year courses followed by 2 years in a higher school; then 6 months in the ranks.

†† At present, young Chinamen are being rapidly pushed through a 2 years' military course. It is intended to bring them back again for further instruction, or to send them to the higher schools when established, as soon as the present pressure has subsided.—E.G.

infantryman carries 100 rounds in his pouches and 40 in his knapsack, a haversack, waterbottle, cloak, and an intrenching implement. The rifles are various patterns of Mausers and Mannlichers, some being purchased from the Japanese. The artillery have some Krupp and some Japanese guns. The cavalry carry swords and carbines. In some provinces lances are carried; the horses (Mongolian ponies) are very hardy.

FRANCE IN 1905.

On the 21st March, 1905, the new Enlistment Act was finally passed — one of incisive signification and reckless severity. It is probable that in 1906 a further decree regulating the number and strength of the commands and staff will be introduced. There is a talk of the 4th Battalions being disbanded. They have never been fully raised. As to artillery, till now it was believed that the 92 French Q.F. field guns of an army corps were the equivalent of the 144 field guns of a German corps. Now that the German Q.F. field gun is being manufactured, it is a question whether raising the French 4-gun batteries to 6 will make them equal, or whether more batteries will have to be organised. The H.A. Batteries of the Cavalry Divisions have now received the Q.F. field gun. A new mountain gun and a 155-mm. (6·1-inch) heavy artillery gun for the field army are under construction. The infantry are still to wait for their new automatic rifle, which is to be of 6·7-mm. (·264-inch) calibre, until the other Powers adopt these. The stations and composition of the 20 French army corps remain as heretofore reported. The VIth and VIIth have 3 divisions. The Colonial Corps (headquarters Paris) has also 3. At Paris, Brest, Cherbourg, Rochefort, Toulon, the 19th Algerian Corps has 3 territorial divisions. There are 4 heavy and 4 light cavalry divisions.

Including the Colonial corps, the average peace strength may be put down as 595,000 men in 1905.

The New Law on Enlistment and Service, 1905.

Service with the colours is now 2 years; in Reserve, 11; in the Territorial Army, 6; and its Reserve, 6.

Recruits now join early in October in each year.

All must serve without distinction. Youths of the educated classes may have their enlistment postponed till their 25th year. No exemptions are now allowed for family supporters; 10 per cent. of the families of those who are taken for service receive a daily allowance of 6d. a day, if very needy. The Algerian and Tunisian contingents now serve 2 years instead of 1. This raises the peace annual contingent by 5,000 men. Those unfit for service under arms who were not taken in peace time are now called up for 2 years' auxiliary service without arms. On the other hand, the law of military taxation (levied on those who were exempted) has been repealed.

Three-fourths of the *sous officiers* and half the *caporals* may prolong their service, and these may enter the Service before the statutory age (21), on condition of re-engaging for 3 or more years. To encourage these, they receive higher pay in their 3rd year, and in their 4th year a gratuity, and are registered for civil employment. Under-officers receive a good monthly wage, and after 10 years, good

civil appointments. The right to pension of under-officers commences with the 16th year of service.

The officers who are not promoted from the ranks of the *sous-officiers* enter through the St. Cyr Military School, but must serve a year in the ranks before being commissioned. The proportion from the officers of the Reserve must pass certain qualifying examinations in certain High Schools; they then serve for a year in the Army. Their second year's service may, however, be passed as officers of Reserve.

Each Reservist has to put in during his service 2 trainings, each lasting 4 weeks. The Territorial Army may be trained once in its 6 years for 14 days. The training of the Reserve officers is much improved. There was a shortage, however, in 1905 of about 7,861 Reserve officers; 5511 officers and 355,918 men of the Reserve were trained for 4 weeks in 1905.

In 1905 the proportion of men voluntarily enlisting was a very large one. The population in France is standing still or decreasing, while that of England is increasing by half a million annually,† of Germany, three-quarters of a million.

In November, 1905, M. Etienne was appointed War Minister, in place of M. Berteaux; General Brun was appointed Chief of the Staff; and General Brugère†† was President of the *Conseil Supérieur de la Guerre*, to which General Pendézec is added since last year's Report.

GERMANY IN 1905.

As it is six years since the strength of the German Army was tabulated in the JOURNAL, the following revised table is given, showing the strength by corps, divisions, etc., with stations to date.

The following additions were made in 1905:—

In March a wireless-telegraph detachment of 8 officers, 18 non-commissioned officers, 85 men, and 40 horses was added to the 1st Telegraph Battalion.

The "King's" Mounted Rifles was formed in April from the combined Mounted Rifle Regiment, the Mounted Rifle Regiment No. 2, and Mounted Rifle Regiment No. 3, were raised in October. These are organised as the other light cavalry regiments.

3rd Battalions were formed in the 146th and 150th Regiments.

A 4th Company was added to the Garrison Artillery Practice School in October.

In October an experimental company of line of communication troops, officered from the railway regiments, was formed.

In Saxony a 3rd Lancer Regiment (No. 21) was raised in October.

In Bavaria 3rd Chavaullger Regiment of 3 squadrons was formed.

In Bavaria a 3rd Company of the 3rd Regiment of Engineers was formed.

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†The Reports of the Registrar-General for Great Britain scarcely bear this out.—E.G.

††General Brugère has since resigned, and is replaced as Generalissimo by General Hagron.—E.G.

The following are the peace establishments† :—

Units.	Officers.	N.C.O. and Men.	Horses.	Guns.	Am. Wagons.	Remarks.
Infantry Battns.						
Higher Establishment	22	640	—	—	—	
Lower „	18	570	—	—	—	
Rifle Battns.						
Higher Establishment	22	659	—	—	—	
Lower „	22	608	—	—	—	
Mach. Gun Detachts.	4	77	54	6	2	
Cav. Squadron ...	4-5	138	135	—	—	
Mounted Rifle do. ...	5	135	132	—	—	There are now only 2 of these (in E. Prussia), the remainder having been absorbed in the Cav.
H.A. Battery.						
Higher Establishment	5	121	120	6	2	
Lower „	4	92	76	4	—	
Field Battery.						
Higher Establishment	4	127	75	6	—	
Lower „	4	102	46	4	—	
Garrison Art. Batn.	20	570	77	—	—	1 Off. 57 men added for Transport.
Engineer Batn. ...	24	611	—	—	—	
Railway „ ...	22	570	—	—	—	
Telegraph „ ...	15	452	56	—	—	1 Off. 36 men added for Transport.
Balloon Batn. ..	13	302	58	—	—	
Train „ ...	14	349	190	—	—	1 Off. 38 men added for Transport.

The principles of military service in Germany remain unchanged: They serve in the Standing Army (with the colours and Reserve) 7 years, with the 1st ban of the Landwehr 5 years, and with the 2nd ban 6 years. Details of the 2 years' service were given in the JOURNAL for June, 1905.

On the 18th March last new regulations for increasing the peace strength of officers were issued, and the conditions under which they can become probationers and obtain commissions are given. There is no space to reproduce these here, but they are important.

The numbers entering the Service voluntarily slightly increased in 1905, viz.:—

	Army.	Navy.
One-year Volunteers - -	9,768	616
Other periods - - -	39,801	2,773
Elementary School Teachers	636	
	50,205	

The total numbers enrolled in 1905 were:—

Armed Services - - - - - -	206,709
Unarmed „ - - - - - -	3,842
Navy (Inland) - - - - - -	5,420
„ Seaports, etc. - - - - -	2,991
	218,962

† The war strengths are not published, but, by calling in the Reservists, and completing the 3rd Battalions of those Regiments not having them, it is probable that Germany could double her peace strength. The cadres are carefully maintained in peace.—E.G.

ORGANISATION AND PEACE STRENGTH OF THE GERMAN FORCES, OCTOBER, 1905, EPITOMISED.

Army Corps.	Station of Headquarters.	Infantry.				Cavalry.			Field Artillery.					Gar. Art.			Engrs.		Train.		Line of Communication Troops.								Remarks.
																					Railway.				Telegraph.		Balloon.		
		Divisions.	Brigades.	Regts.	Battalions.	Brigades.	Regts.	Squadrons	Brigades.	Regts.	Divisions (Abteilung).	H.A. Batts.	F.A. Batts.	Regts.	Battalions.	Companies.	Battalions.	Companies.	Battalions	Companies.	Brig	Regts.	Battns.	Cos.	Batns.	Cos.	Batn.	Cos.	
Guard.	Berlin	2 Inf. 1 Cav.	5	11	33[1]	—	4	8	2	4	9	5	21	1	2	8	1	4	1	3	1	3	6	24	3	9	1	2	
I.	Königsberg	1 Inf.	6	12	35	3	6	31	2	5	11	2	30	1	2	10	2	8	1	3	—	—	—	—	—	—	—	—	E. Prussia.
II.	Stettin	2 „	5	10	28	2	4	20	2	4	8	3	21	1	3	12	1	4	1	4	—	—	—	—	—	—	—	—	Pomerania.
III.	Berlin	2 „	4	8	25	2	4	20	2	4	9	2	24	—	—	—	1	4	1	3	—	—	—	—	1	3	—	—	Brandenburg.
IV.	Magdeburg	2 „	4	8	22	2	4	20	2	4	8	3	21	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	Magdeburg.
V.	Posen	2 „	5	10	29	2	4	20	2	4	9	2	24	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	Poland.
VI.	Breslau	2 „	5	10	29	2	5	25	2	4	8	3	21	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	Silesia.
VII.	Münster	2 „	5	10	29	2	4	20	2	4	8	3	21	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	Westphalia.
VIII.	Coblenz...	2 „	5	10	28	2	4	20	2	4	9	2	24	1	2	10	1	4	1	3	—	—	—	—	—	—	—	—	Rhine.
IX.	Altona	2 „	5	10	29	2	4	20	2	4	8	—	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	Hanseatic.
X.	Hannover	2 „	4	8	23	2	4	20	2	4	9	2	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	Hannover.
XI.	Cassel	2 „	4	8	24	1	3	15	2	4	9	2	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	
XII.	Dresden	2 „	4	7	21	2	4	20	2	4	9	2	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	Saxon.
XIII.	Stuttgart	2 „	4	9	25	2	4	20	2	4	8	—	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	Wurtemberg.
XIV.	Karlsruhe	3 „	6	12	35	2	5	20	2	5	10	1	29	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	Baden.
XV.	Strassburg	2 „	5	10	32	2	4	20	2	4	9	2	24	2	4	18	2	8	1	3	—	—	—	—	—	—	—	—	Alsace.
XVI.	Metz	2 „	5	10	28	2	4	20	2	4	8	3	21	2	4	19	2	8	1	3	—	—	—	—	—	—	—	—	Lorraine.
XVII.	Danzig	2 „	5	11	31	2	5	26	2	4	9	2	24	2	4	18	1	4	1	3	—	—	—	—	—	—	—	—	W. Prussia.
XVIII.	Frankfurt a/M. ...	2 „	4	10	28	2	4	20	2	4	8	1	23	1	2	8	1	4	1	3	—	—	—	—	—	—	—	—	
XIX.	Leipzig	2 „	4	8	22	2	2	10	1	4	8	—	24	—	—	—	1	4	1	3	—	—	—	—	—	—	—	—	Saxon.
1st Bavn.	Munich	2 „	4	8	25	2	4	20	2	4	8	—	20	1	2	8	1	2	1	3	—	—	1	3	—	1	—	2	Bavaria.
2nd „	Würzburg	2 „	4	8	23	2	4	20	2	4	9	2	20	1	3	12	1	4	1	3	—	—	—	—	—	—	—	—	„
3rd „	Nürnberg	2 „	4	8	24	1	3	13	2	4	8	—	20	—	—	—	1	4	1	2	—	—	—	—	—	—	—	—	„
Totals...	22 Army Corps ...	48 Inf. 1 Cav.[3]	106	216	627	47	97	480	45	94	199 inc HA	42	532	18	38	163	26	102	23	68	1	3	7	27	3	10	1	4	

[1] Rifle Batns. are included throughout. [2] Mounted Rifles are included throughout with the other Squadns. [3] This is the only *permanent* Cav. Divn.

GREAT BRITAIN IN 1905.

The Report gives the organisation and distribution of the British Home Forces as taken from our Army List. Our weakness, it says, lies in the fact that in reality the Aldershot Army Corps is the only body of troops ready for immediate active service abroad. We endeavour to keep to the territorial principle, and at the same time to maintain the sharp line of division between the administrative duties and those of command. Mr. Arnold Forster's scheme of a long-service Army for foreign service and a short home service (2 years with the colours) Army is commented on, and wonder expressed whether Mr. Haldane, the new War Minister, would carry this through. The intention of making the Volunteers responsible for Home Defence, and the expressed dislike of the British to anything like compulsory service is remarked on. Every little detail of the changes in our kaleidoscopical Army is noticed, and the difficulty of the supply of trained officers is closely examined, the pay of each rank being given, etc. The new musketry and other regulations issued are enumerated, and details of our Military Budget are added. Major Balck's 4th Vol. of the German General Staff, "*Die Entwickelung des Englishen Heerwesens*," etc. 1905-06, is referred to; so we have no excuse for not seeing ourselves as others see us.

JAPAN.

No Report is given of the Japanese Army, as no details are available. In the JOURNAL for October, 1904, p. 1131, a *précis* of the information then furnished was given, and certain war details in that for February, 1906, p. 227. Since the close of the war it is believed the Japanese Army is being reorganised.

RUSSIA.

The Report tabulates at length in great detail the normal organisation of the Russian forces at the end of 1905. Experience in the late war has, it is said, led to changes being effected in heavy artillery and technical troops, and the provision of machine guns, etc. The pay, clothing, and food of the Army have been improved, and the general condition of the soldiers—particularly of the re-engaged men—bettered. The shortening of the period of service with the colours is contemplated. New regulations for the quicker promotion and for pensions to officers are shortly expected.

The forces in Manchuria, under General Linievitch, are given separately. General Kuropatkin is still shown as Commander of the 1st Manchurian Army.

The Army is said to have maintained its discipline well until the battle of Mukden. After that retreat it was considerably loosened; but it recovered in a few weeks as pursuit slackened. As regards the condition of the forces in face of the revolutionary attempts to corrupt them, it says that it will need great self-sacrifice on the part of the officers to enable these to lead it successfully against their fellow-countrymen in arms. The Cossacks have, however, always been faithful to their duty. All officers have now to salute one another on meeting, whether known or not. This was not done under Dragomirov.

SWITZERLAND.

The Reorganisation Bill will come up for consideration in 1906. In 1905 the Ist and IInd Army Corps were mobilised, and all mustered satisfactorily.

In these corps the artillery were armed with the new Q.F. field gun.†

TURKEY.

The Report of the Turkish Army and its organisation, both as regards the Nizam (Regulars) and Redif (Reserves), is full and satisfactory. The behaviour of the troops who have been fighting in Yemen and their discipline is much praised. The principal staff officers at headquarters and many others have now been trained after the German thorough method. A Jubilee medal issued to all officers and men serving on the 1st September 1905 (the 30th anniversary of the Sultan Abdul Hamid's accession) gave great satisfaction.

The war strengths are now fixed as follows:—

	Officers.	Men.	Horses.
Nizam Battalions - - -	24	700	106
Redif Battalions, of 1st Class	24	900	106
,, ,, of 2nd Class	24	800	106
Mustaphi ,, - - -	15	500	
The squadrons generally - -		100	

The peace strengths rarely exceed 18 officers and 400 men and are kept as low as possible. The Nizam and Redifs of Ist and IInd class are now armed with Mauser or similar rifles. There are 7 corps and 2 independent divisions, altogether 20 divisions of Regular troops, altogether 338 battalions, 208 squadrons of Regular cavalry, 271 batteries of field artillery, 146 companies garrison artillery, 58 companies of technical troops (engineers), 8 battalions of train, comprising 24 companies. There are 24 divisions (368 battalions of Redifs of Class I., 41 divisions, about 172 battalions of Class II. in Europe, and 12 regiments, 48 squadrons) of Redif cavalry. There are a large number of Irregular cavalry in Asia.

The total strength available for war is reckoned as about 1,000,000 rifles, 80,000 sabres.

There are about 25,000 gendarmerie, of which most are mounted.

The following table epitomises roughly the Turkish organisation and peace strength:—

† See "Artillery *Matériel*."—E.G.

PEACE ORGANISATION OF TURKISH ARMY WITH STRENGTH EPITOMISED.

PEACE ORGANISATION OF TURKISH ARMY WITH STRENGTH EPITOMISED.

Army Corps and Independent Division Stations.	Infantry.				Cavalry.				Field Artillery.								Gar. Art Cos.		Engineers.					Train.		Reserves.										
												Batteries.														1st Class (Redif).				2nd Class (Ilawe).				Kurd Cavalry (Hamadié).		
																										Infantry.				Cavalry.		Infantry.						
	†Divisions.	Brigades.	Regts.	Battalions.	Divisions.	Brigades.	Regts.	Squadrons.	Brigades.	Regts.	Divisions.	Horse Art.	Field Art.	Mountain.	Howitzer.	Total.	With Corps.	In Reserve.	Battalions.	Cos.	Railway Batn.	Railway Cos.	Telegraph Cos.	Battalion.	Squadron.	Divns.	Brgds.	Regts.	Batns.	Regts.	Sqdns.	Divns	Brgds.	Regts.	Batns. (Europe)	Batns (Asia)	Brig.	Regts.	Sqdns.
I (Guard.) Constantinople ...	2	4	7	27	1	3	6	28	3	6	13	3	30	6	—	39	24	14	5	21	—	—	1	1	3	4	8	16	64	4	16	8	16	32	—	253	—	—	—
II. Adrianople	3	6	12	52	1	3	7	35	3	7	15	3	35	6	6	50	—	50	1	4	—	—	1	1	3	4	8	16	64	4	16	2	5	10	78	208	—	—	—
III. Salonika	5	10	19	83	1	3	8	42	4	10	21	3	63	13	6	85	11	12	1	4	—	—	1	1	3	4	8	16	64	4	16	7	15	30	18	207	—	—	—
IV. Ersinghian	3	12	12	51	1	3	6	30	3	6	13	3	30	6	—	39	23	—	1	4	3	12	1	1	3	4	8	16	64	—	—	5	10	20	—	229	13	66	280
V. Damascus	1	2	5	22	1	3	6	30	2	3	9	3	18	5	—	26	3	—	—	1	—	—	1	1	3	4	8	16	64	—	—	5	10	20	—	151	—	—	—
VI. Bagdad	2	4	8	34	1	3	6	30	—	1	5	3	12	2	—	17	—	—	-	1	—	—	1	1	3	4	7	14	48	—	—	—	—	—	—	—	—	—	—
VII. Yemen	2	4	8	34	—	—	—	3	—	1	2	—	3	—	4	7	—	3	—	1	—	—	1	2	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15 Division Tripoli‡ ...	1	2	4	17	—	1	2	10	—	—	1	2	—	4	2	6	—	3	—	—	—	—	-	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16 Division Hedjas ...	1	2	4	17½	—	—	—	—	—	—	1	—	—	2	—	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Totals	20	40	79	338	6	19	41	208	15	35	81	18	195	46	12	271	64	82	8	36	3	12	7	8	24	24	47	94	368	12	48	41	83	72	160	528	13	66	280

(To be continued.)

† It is difficult to tell exactly from the table given in the Report what Divisions belong to each Corps or are at present at its Station. There are 20 in all, and 6 Cav. Divisions.

‡ There are in Tripoli local Militia = 17 Batns., 6 Cav. Regts. (30 squadns.) in addition. The organisation of the 2nd Class Res. Ilawe is uncertain.—E. G.

ADMIRAL NEBOGATOFF ON THE BATTLE OF TSUSHIMA.

(In which he Defends his Surrender of Ships and Blames Admiral Rodjestvensky.)

(Translated by permission from the *Roos* of 9th—22nd February, 1906, By Captain G. A. West, late R.F.A.)

"AFTER the battle of the Straits of Tsushima, I was sentenced to one of the most degrading punishments (deprived of all rank). Under ordinary conditions of life the accused is informed of the charge against him. He is heard and judged. With myself it was otherwise. I was denied all legal rights. My judges, who were unknown to me, considered it unnecessary to condescend any explanation.

"In the following exposition I wish to establish that my conduct as Admiral Commanding the Third Squadron, gave no cause, either during the cruise from Libau to Tsushima, or during the fight itself, for accusations of any sort. All that was given me to do I fulfilled punctiliously. The catastrophe of Tsushima and the surrender of the ships was not my fault. The composition of the squadron before the fight is known. I will not describe the fight in detail, but simply point out the following facts concerning more immediately myself.

The Fight of the 14th May.

"The ironclad "Suvorov" (Admiral Rodjestvensky's flag-ship), with both funnels smashed and enveloped in flames, left the line of battle. The enemy's armoured cruisers pursued her. I immediately steered in her wake and directed my whole fire on the enemy's cruisers. This manœuvre, undertaken for her protection, gave the "Suvorov" the chance of recovering herself. I succeeded, as shown also by the report of Admiral Togo, in damaging some of the enemy, including the cruiser "Kasagi," the flag-ship of Rear-Admiral Deva, which received such serious injuries, that it was found necessary to remove her to the Bay of Aburaya, and she took no further part in the operations.

"About 5 p.m. a shell, either a 6-inch or 8-inch, burst in the 12-inch barbette of the ironclad "Nicholas I." (my flag-ship), and

Lieutenant Baron von Mirbach, who was standing inside, was killed by the splinters. Part of the splinters pierced the conning-tower through the eyelet-holes and wounded Captain Smirnov, commanding the ironclad, in the temple. He was immediately taken to the dressing-station, after which the direction of the ironclad devolved on me. During the whole time this combat lasted, from 1.30 p.m. to 6 p.m., I did not receive a single order from the Admiral-in-Chief, as to dispositions or otherwise.

"At 5 p.m., finding that further movements in this part would present much danger, owing to the approach of sunset, after which the enemy would undoubtedly engage in torpedo attacks and the laying of floating mines on our course, by the numerous torpedo-boats, I shaped course N.E. 23, which had been given me before the fight, as the one leading to Vladivostock. About this time the following signal was made on the transport "Anadyr":—"Does Admiral Nebogatoff know that . . . ." There was no continuation. At 6 o'clock the destroyer "Blistyaschi," passing on the port-side, conveyed verbally, and by semaphore, the message: "Admiral Rodjestvensky ordered you to go to Vladivostock." I signalled "Follow me" and continued my course to Vladivostock. The following ironclads followed me: "Apraksin," "Sinyavin," "Ushakov," "Orel," and the cruiser "Izumrud," and some others.

"All this happened about 7 o'clock in the evening. The sun was setting, and with it the day's fighting ceased. At this time the ironclad "Borodino," the fore part of which was on fire, was heeling rapidly to starboard, and after a few minutes, capsized.

The Night Fight.

"The night fighting consisted of uninterrupted attacks of torpedo-boats, to the number of 50. The ships of my squadron successfully avoided these attacks. I mention this, as the commanders of my ships had been warned long before the fight about taking precautions to guard themselves against attacks from torpedo-boats and mines after dark.

"The case of the ironclad "Nicholas I." may serve to illustrate the success of such tactics. This ship was attacked by the enemy's torpedo-boats at a distance no greater than a cable's length. A torpedo-boat fired a torpedo against my ship, but, thanks to the total darkness, and my having changed direction, the torpedo passed below the stern, without touching the battle-ship. Simultaneously the torpedo-boat fired from her guns, and with one of her shots wounded two of my crew. I am of opinion that had Admiral Rodjestvensky adopted my tactics the ironclads "Navarin," "Sissoi Velikie," and "Nachimov," would probably have escaped destruction. Unfortunately, during this night attack these ships showed their search-lights, thereby giving away their positions to the enemy's torpedo-boats. Resistance to the attacks of the torpedo-boats was particularly difficult owing to the fact that the guns of the "Orel" were all useless for action, and those of the other ships were of an old pattern, firing 1 shot per min. as against 4—6 shots per min. of the new guns. To complete all, the cruiser squadron, under the command of Rear-Admiral Enquist left us and went to Manila. The fast cruiser "Almaz" went to Vladivostock, "Dmitri Donskoy" went ashore. In a

word, the whole of the cruiser squadron, with the exception of the "Izumrud," scattering in all directions, disappeared. Nor did the torpedo-boats help me.

"At dawn the position of my ships was as follows:—Leading was the "Nicholas I.," having on her port beam the "Izumrud," and following them in column, the "Orel," "Apraksin," and "Sinyavin." These were the only ships of ours visible."

Admiral Nebogatoff then passes on to describe the hour of his supreme misfortune on the 15th May.

"At 6 a.m. I sighted the smoke of five ships on my port bow, and soon became convinced that these were a squadron of the enemy's cruisers of the type "Matsushima," which were soon joined by two more cruisers. I immediately signalled: "Clear the decks for action," and gave an order to all ships to steer 8 points to port, intending to attack the enemy in front. But as soon as the enemy observed this manœuvre they turned their sterns to me and began to move away. Seeing that the enemy was trying to avoid an action, and not being able to pursue and overtake them, owing to the inferior speed of my ships, I again steered for Vladivostock.

"At 8 a.m. behind us on the port side was sighted the smoke of seven large ships. I immediately sent the cruiser "Izumrud" to meet them. On returning the cruiser reported that there was a squadron of Japanese cruisers ahead of us, and at the same time signalled to request my permission to go alone to Vladivostock, which she could easily reach owing to her superior speed. I answered this with a refusal, as I had not yet given up hope of beating off the hostile ships surrounding me, not yet considering the difference in numbers as leaving no ground for hope.

"At length at 9 a.m. appeared abreast of us on the horizon six large ships and the cruisers "Nisshin" and "Kasuga." After a short time some more of the enemy's ships and torpedo-boats began to show themselves, steering in an easterly direction, so that at 10 o'clock we found ourselves surrounded by the whole Japanese fleet, consisting of 27 ships, not counting the torpedo-boats. As far as it was possible to judge from an exterior view, all the ships were in perfect order. Approaching us to within 56 cables' lengths, the enemy's ships began to open fire, and shells fired with great rapidity began to fall on the "Nicholas I." Commander Fedosev, the navigating officer, was slightly wounded by one of these destructive projectiles. The side of the ship was also struck by some of the smaller projectiles, at the water-line, near the bow. Water rushed through the holes made into the fore dynamo compartment. The electric light went out. Access to the fighting part of this compartment was thus rendered impossible. On my ordering to open fire, the artillery officer informed me that this would be useless, since the enemy's ships were at a distance of 56 cables, and the extreme range of our guns was only 49½ cables. We would undoubtedly have been sunk. There was no single hope, nor any chance of safety. Two thousand men waited from my lips the decision of their fate.

"The position of our ships was as follows:—

"In my function as commanding the squadron and upholding the dignity of the Russian fleet, I would not have been justified in giving way to my first impressions, but in the interest of my career it was my duty to examine the position of my ships deliberately and honour-

ably. After examining the position under the fire of the enemy, I arrived at the following conclusions:—

1. The 12-inch guns on the "Nicholas I." were already damaged from the splinters of the enemy's shell of the night before. The *foregasse* equipments were all spent in the fight. The other guns could not cause the enemy any serious damage.
2. Under my command were 4 ironclads and 1 cruiser, whilst surrounding me were 27 war-ships and a number of torpedo-boats.
3. The range of our guns was 50 cables (5 miles). The enemy kept at 55 cables distance. Whenever we made an attempt to get nearer to him, he, taking advantage of his superior speed, at once retired, so that the distance was not lessened. We thus represented a target, which it was easy to fusillade, but which itself was not in a position to reply.
4. The crew of the ironclad ("Nicholas I.") had, in the fights both day and night of the day before, behaved with an energy beyond all praise, and fully understood the present position.
5. The enemy had commenced firing, men had already been killed, and ships destroyed. A few minutes more and we should all be lost.

"Under these circumstances I decided that resistance was impossible, and that a further continuance under the enemy's fire, would lead to a useless slaughter of officers and men. In view of the above, the moment had clearly arrived when the officer commanding a squadron must devote his whole efforts to the saving of his officers, crews and ships."

Were there at the disposal of Admiral Nebogatoff any means of saving the ships and crews?

"1. We were in the open sea, without having near us a friendly shore, or ships of a friendly Power.
2. The majority of the ships' boats were damaged, and the launch of those remaining serviceable was impracticable under an enemy's fire. Besides the small boats, there was a complete dearth of life-saving appliances; thus the hammocks were employed for the improvisation of gun-curtains, and the defence of the most vulnerable parts of the ship.
3. There was no time available for taking any such measures, for the enemy's fire was already withering us.
4. The loss of physical powers from fighting continuously day and night.

"There is, therefore, no doubt that by sinking and blowing up my ships, I should have lost the whole of the officers and lower ranks. Had I the right to do this by the regulations and by my conscience? Article 354 of the Naval Instructions, 1899, says:—

"During the fight the officer in supreme command will set an example of courage, and will continue the fight to the last moment

possible. In order to avert useless bloodshed, he may decide to surrender the ships, but not without the consent of the whole of the officers, and if all arms and ammunition are exhausted, the guns destroyed and all means of defence come to an end, and if there is no possibility of destroying the ship and saving the crew on shore or in boats . . . ."

The Surrender.

"It will be established by the evidence of witnesses that I conformed in every way with these instructions. Convinced of the uselessness of bloodshed and the impossibility of destroying the ships, and at the same time preserving the lives of the crew, I, without yet expressing any opinion, proposed to make known our position to 1st Captain B. B. Smirnov and the officers. Captain Smirnov, as to whose bravery and devotion to duty no one can have any doubt, at once admitted that he personally could see no means whatever of inflicting any damage on the enemy and of saving the ships and *personnel*. Such also, as is well known, was the verdict of the other commanders and officers, amongst whom there was not one capable of forgetting the honour of a sailor. There was nothing astonishing in this universal consent; the picture was too clear to admit of different versions. We were in the ocean, under the fire of a numerous squadron; we were threatened with death at sea, without any hope of success. All felt and understood the same, and all saw with horror that it was a case where Clause 354 of the Naval Regulations was applicable."

Admiral Nebogatoff explains his *rôle* thus:—

"I know well that the requirements of the Regulations do not always overrule all arguments of *moral*, and for this reason I am ready to defend myself in the present instance from a moral standpoint. I only ask that it may be borne in mind that when the surrender of the ships was decided on there was not for a moment on my part any selfish feeling, with a view to preserving my own life. I exposed my life sufficiently in the fighting of the previous day and night to scorn reproach on the grounds of cowardice of any sort. If I had had any fears of this sort I could have found plenty of excuses for not finding myself in the same sea as Admiral Rodjestvensky, and thus put an end to his expedition. If I had valued my life I could easily have made my actions conformable to the exact meaning of Article 109 of Naval Regulations, which says that 'if the admiral's ship is so seriously injured that it is not in a position to continue fighting, or finds itself in danger of falling into the enemy's hands, it is incumbent on the admiral to transfer himself to some other ship which he may choose.' Thus nothing prevented me—nay, the contrary—from legally transferring myself to the fast cruiser "Izumrud," and thus have full facility for going to Vladivostock. If my object had been the preservation of my own life, I could have, no worse than the others, thrown myself ashore, or steered for Manila during the battle of the 14th. I could have adopted any one of these means; but I never thought of them. I went straight ahead, through the enemy's ships, occupied with one thought only—getting to Vladivostock, as I had been ordered.

"In order to thoroughly judge my course of action, the events of recent times should be reviewed. Looking at military proceedings

on land, it is seen that whole corps surrendered to the Japanese. When had this happened before? Impossible that Russian pride, love of country and military honour had fled! Looking again, we notice in naval and military combined actions on land a constant superiority of the enemy over ourselves. I maintain that on the 14th and 15th May, in the waters of Tsushima there was waged, not a battle between two adversaries, but a naval controversy, with certain death at sea as a consequence, without hope of any sort of success. Who is, then, really to be held responsible for the disaster at Tsushima?" To this Admiral Nebogatoff answers as follows:—"The first cause of the disaster near the island of Tsushima appears in the insufficiency of our war-ships and their poor equipment. The second factor leading to our defeat was the procedure of the Admiral-in-Chief of the Fleet, Admiral Rodjestvensky. I will confine myself to the mention of a few of his errors:—

"1. Up to the time I joined Admiral Rodjestvensky I was surprised at the indifferent manner which he manifested towards my squadron. The admiral had instructions, before leaving Novi Bay, in Madagascar, to send an officer to Jibutil, with instructions and dispositions for myself. As is known, Admiral Rodjestvensky took no steps in this matter. I had to send off the hospital-ship "Rostroma" in search of Admiral Rodjestvensky without any co-operation from him.

"2. According to the usual order of things, the Admiral-in-Command of the Fleet arranges consultations with the admirals and captains of his ships, in which he explains to them the substance of his plan of action. The effect of such meetings is that subordinates are acquainted with the plans of the Admiral-in-Chief, and when the fight occurs are able to give effective co-operation. But what happened in the present case? I, the junior flag-admiral, and, after Rear-Admiral Folkersam, the immediate successor of the Admiral-in-Chief, only saw Admiral Rodjestvensky once in the whole course of the cruise, and was not permitted by him to give my opinion on events of the near future, nor even invited to ordinary discussion on this subject. I received instructions each day where to go, what course to take, and to this my whole information was limited. Wishing to know something about the plans of Admiral Rodjestvensky I studied his orders, but in them, for the most part, was nothing but arrangements for the stacking of coal, repetitions of ship's orders, and remarks on the subject of incorrect manœuvring of ships during evolutions—nothing further. Wishing to know something more than this of his plans, I asked my officers to discuss with the admiral's officers, but nothing resulted. Thus I knew nothing except this: that in the event of an action we should follow the leading ship, filling the places of any leaving the line of battle, and in case of the "Suvorov" being put out of action I was to follow astern of the ironclad "Alexander II." When I went into action I did not even know that the junior flag-admiral, K. A. Folkersam, had died on the 12th May, and that I was the immediate successor of the admiral. Such secrecy and uncommunicativeness on the part of the Admiral-in-Chief of a Fleet is without precedent in naval history. It cannot be that the admiral failed to realise that the chances of war might make him one of the first sacrifices, and that on me would lie the obligation of bringing his plan to its conclusion.

"3. One of the chief mistakes which makes him responsible for the destruction of the squadron was undoubtedly the choice of the Straits of Tsushima for breaking through to Vladivostock.

Admiral Rodjestvensky's Chief Mistake.

"The Admiral had his choice of three routes, through three different straits, viz., Tsushima, Tsugaru, and Laperouse. The distance from these straits to Vladivostock was in each case about the same, viz., 450 miles; but from a strategical standpoint the significance of these routes was very different. At a very short distance from the Straits of Tsushima is an important military harbour, Sasebo. Thus with our fleet going through the Straits of Tsushima, the Japanese fleet was able to lean on its chief base. In expectation of this passage being the one chosen, the Japanese fleet could remain quietly at anchor in Sasebo, quickly prepare for the forthcoming fight, and place its ships in the most advantageous positions for action, leaving all superfluous fittings in the port. Thanks to their being so near their base, the ships of the Japanese fleet were enabled to keep their machinery and boilers in perfect order and cleanness up to the moment of fighting. The proximity of their base also allowed the Japanese to concentrate and hold ready a large number of torpedo-boats. With this passage, too, they could easily follow the movements of our fleet on its approaching the straits without in any way revealing their presence, their position, or their main numbers. Besides, they had another advantage which should have been foreseen. The North China Sea, stretching to the north, borders on the east group of islands, Liu-Kiu, then with the islands forming Japan itself; on the west are the islands of Quelpart, the islands of the Corean Archipelago, and the mainland of the Corean peninsula. Such a position for the Japanese gave them the chance of erecting on these islands numerous stations of observation provided with wireless telegraphy; while cruisers and merchant steamers could continually give the Japanese information as to our movements. The enemy thus knew the very hour that our squadron would appear, and it only remained for him to choose the most convenient spot and time to commence the encounter.

"On the 12th May, that is, two days before the battle, the auxiliary cruiser "Ural" and the other ships of the squadron were able to announce that communications were going on at sea by wireless telegraphy. To all these advantages, which the Japanese gained by the choice of the Tsushima passage, may be added the fact that the closeness of the base allowed them to have fresh crews and to remove the sick, etc.

"The Russian squadron would have been in quite a different position had the choice of passage fallen on the Straits of Laperouse, to the extreme north and 500 miles distant from the main Japanese base. On that littoral there was no naval and commercial fleet or port. With that passage both fleets would have been under more or less the same conditions. Furthermore, in these straits, near Vladivostock, and along the whole Tartary coast, in May very thick fogs occur; thus our fleet would have had no small chance of reaching Vladivostock without even meeting the Japanese. It would have been necessary for them to spend no small amount of energy and

material in defending their ships from the attacks of our torpedo-boats, which could have left Vladivostock and hid in one of the numerous bays on our littoral, waiting for a suitable moment to attack. There is no doubt that on our debouching from the Straits of Laperouse we could never have been opposed by that fresh and well-ordered force which appeared before us in the Straits of Corea. On our approaching the Straits of Corea we had no information of any sort about the enemy, in spite of the fact that Sakhalin gave us every opportunity for organising posts of observations, from which, by means of steam cutters, boats, etc., it would have been easy to arrange for the transmission of information about the enemy at previously arranged points on the east and west coasts of Sakhalin.

"There is, therefore, no doubt that, had there been any conferences with myself and others, the admiral would have been met with a number of serious representations as to the impossibility of going through the Straits of Tsushima. I do not think that Admiral Rodjestvensky had the moral right to enter on such an important undertaking, without consulting others. Having placed us in the position of blind instruments of his will, he forced some to pay for it with their lives, and others, like myself, to remain in a living torment of obloquy.

"4. On arrival in the Straits of Corea, Admiral Rodjestvensky sent his scout-vessels on ahead, and after this took no precautions against an unexpected encounter with the enemy; further, no measures were taken to intercept or interfere with the enemy's telegraphic communications. On the 13th May, on the eve of the battle itself, he made us twice practice a certain evolution, which needlessly fatigued the crews.

"5. All ships of the squadron under Admiral Rodjestvensky were loaded with coal to their utmost capacity. We shipped coal in such quantities that the armour at the water-line was submerged two feet. Thus the ironclads were only nominally protected at the water-line. As a matter of fact, this their essential part was as unprotected against the fire of war-ships as would be merchant-ships or transports. Coal was to be found everywhere, not only in the coal bunkers, but also on the upper deck, the conning-towers, and in the officers' cabins.

Overloading of Ships.

"In the coast-defence ships coal was stacked even in the captain's cabins. The ironclad "Apraksin," on the morning of the 15th May, at the conclusion of the battle, and after the torpedo-attack in the course of the night, had still 20 per cent. of coal above her normal requirements. It will be understood that such an overloading and consequent submerging of the defensive parts had a harmful effect on the speed of ships. Thus the "Nicholas I.," at highest steam pressure, could make no more than 12 knots. It was thus heavily handicapped that our ships found themselves at the time of the fight. One asks oneself involuntarily, what induced Admiral Rodjestvensky to thus always charge his ships with coal? According to our calculations going into action, we had coal for 3,000 miles, whilst the course through the Straits of Tsushima was less than 900 miles. Whatever, then, was the idea of such an overcharge? Or what is it really but a revolting mistake!

Fires.

"6. With regard to the occurrence of fires, I think I am correct in saying that all measures were not taken by the Admiral-in-Chief for their extinction. I may mention that it is laid down that before a squadron commences an action all wood should be removed, and all superstructures and woodwork transferred to the interior of ships, leaving only what is necessary for fighting requirements. Every other particle should be taken down and shipped on to transports. Was this done by Admiral Rodjestvensky? I answer, No! Only the ships of my squadron fulfilled, by my orders, this requirement, but of the others only one ironclad, the "Orel," was thus cleared, before the fight, of all inflammable material, and this was done on the initiative of her commander, and not by Admiral Rodjestvensky's orders. The result of this was evident to everybody. On board my ships fires either did not occur at all, or they were so small as to be immediately extinguishable with water-hoses, with which all parts of my ships were abundantly furnished.

"The reverse occurred on the other ships. Soon after the commencement of the fight the following ships were on fire: "Suvorov," "Sissoi Velikie," "Borodino," "Alexander III." The fire on the first-named was particularly alarming. I witnessed it personally. It began forward in a cabin, which burned like tinder, while tongues of flame shot up from the port-holes. After a while the fire began to spread aft. The wooden boats, the stern cabins, and other woodwork about gave abundant food to the fire, and before long the whole ship was wrapt in flames. It is difficult to imagine the amount a fire can damage a war-ship. Consider the number of men who perish inevitably. The whole of the ordnance is rendered unserviceable. Is it not, then, obvious that Admiral Rodjestvensky should have, the day before the action, given orders for the removal of the woodwork?

Capsizing of Ships.

"7. I have already had the honour to remark that during the fight, one ship after the other, after heeling over and sinking in the water, turned turtle. Thousands of men thus perished, without succeeding in inflicting any damage on the enemy. I am convinced that our ships were lost through overcharge of coal, and owing to the fact that on them were placed, by order of the Admiral-in-Chief, a number of machines or cranes, by which our ships lost the required stability. Then, in order to put the fire out, water was pumped on, and there being no scuppers it was unable to flow away. By and by an upheaval occurred below and the ship capsized."

Turning then to the dispositions made by the Admiral-in-Chief during the fight for the co-operation of the various commanders, Admiral Nebogatoff affirms that from the moment of meeting the Japanese fleet to 5 o'clock in the afternoon, he did not receive a single order, and had to act entirely according to his own judgment.

"Only at last, at 6 p.m.," he says, "when I had already altered course to make for Vladivostock, did I receive an order, a confirmation of my decision to go there. How is such commanding to be described? Before the battle no one knew the plan of action, and during the battle itself no one gave any directions."

Summing up the actions of the Admiral-in-Chief, Admiral Nebogatoff says:—

"Not a single conference before the battle.

"Choice of the route to Vladivostock by the Tsushima Straits, without warning us of this even on the night before the battle. No single order with reference to the battle, either on the eve of operations or at the battle itself.

"Overloaded ships, unremoved woodwork, fires, capsized ships, hampered by transports, useless employment of the cruiser and torpedo squadrons.

Non-Co-operation of Cruisers.

"Having given this exposition of the acts of Admiral Rodjestvensky, I will say a few words about Admiral Enquist, whose duty it was to look after the transports. What became of Enquist during the fight? Did he take any part in it, and did he help us at the time of the night attack against the Japanese torpedo boats? Turning to the reports of Admiral Enquist, we see that, according to his own words, he for some time tried to pierce the line of hostile war ships and cruisers, in order to get to the North, but had to give up this object "on account of continual attacks." Thus, Admiral Enquist, "on account of constant attacks," went to Manila. The question arises, which were the hostile war ships and cruisers which opposed his way northwards? Now, it has already been shown that at sunset the enemy's ironclads and cruisers went eastwards to their own shores, and did not further prevent our ships continuing northwards, which is clearly proved by the movements of my ships. We know that during the night fight there were only torpedo attacks against us. During such a fight the participation of the cruiser squadron would have been highly advantageous to us, as cruisers possess great speed and quickness of artillery fire. Had the cruiser squadron of Admiral Enquist protected the rear of the column following me, we should not have lost so many ships from attacks in the dark. In my opinion, there was nothing to prevent Admiral Enquist remaining near me in the same manner as the cruiser 'Izumrud.'

"Having come under my orders at 6 p.m., the Admiral had not the right, according to the rules of the service, to leave me and go to Manila, without instructions from me. The picture of the fight outlined by me is less realistic and less terrible than what actually occurred. The legal enquiry and evidence of witnesses, in the form of letters of sailors and others, given by me into the hands of my solicitor, C. P. Margolin, are the complement of my observations.

"All that has been represented by me is not for the purpose of damaging anyone's position, but in order to show and establish that at dawn on 15th May, I found myself in a most terrible position, not through any want of prudence on my part, but through causes quite independent of me. From the moment I joined my squadron with Admiral Rodjestvensky I was his subordinate. He placed me in the position of a blind instrument, and only in this quality of blind instrument can I be responsible before my country and Emperor. Whilst I had an independent command, it is with pride that I say it, I did not once fall short of my duty as a sailor. Arriving fresh from Libau, I accomplished, without a mistake, all the difficulties

of navigation in a tropical sea. During the cruise I avoided complication with anyone. In moving towards Admiral Rodjestvensky I completed the cruise from Libau to Kuabay in the shortest possible time, not having lost a single day. I led my squadron to Admiral Rodjestvensky in complete order. Foreseeing the probability of torpedo attacks, I taught my squadron how to defend itself from them, when moving in the dark. Foreseeing also the possibility of fires on board, I removed all woodwork from my ships before the fight. With untiring instruction and war training I instilled in the united crews a thorough knowledge of naval duties. Other war-ships burnt, turned turtle, sank from torpedo attacks; mine did not. On meeting the enemy on 14th May, I conducted a regular defence. Not receiving any orders I did not throw myself ashore in order to disembark, nor did I proceed to Manila. I carried out the one order of Admiral Rodjestvensky: to go to Vladivostock, and I steered for that port uninterruptedly. When cruisers and torpedo-boats left me I went on alone. At dawn on 15th May the whole squadron, under the direct command of Admiral Rodjestvensky, was scattered or destroyed. I alone remained at my post. Had there been a mist, had the Japanese ships been less swift, or had I had at my disposition proper seaworthy ships, not coastguard ships overloaded with coal, I should have got to Vladivostock.

"Had I had better guns, even as good as the Japanese, my command would have known how to die in battle together with me. Unfortunately, circumstances ordered otherwise. On us is laid the blame for another's fault.

"From the point of view of my judges, those who have sentenced me to an ignominious punishment, I should have blown up my ships in the open sea, and turned 2,000 sailors into bloody fragments. I should have opened the "Kingstons" and drowned 2,000 men in the course of a few minutes. In whose name? In the name of the honour of the flag of St. Andrew ———? But this flag is a symbol of that Russia, which, thoroughly imbued with a recognition of the obligations of a great country, preserves its dignity and the lives of its sons, and does not send men to death on old ships, in order to hide, or rather to submerge in the ocean, its moral bankruptcy and rapacity, its inefficiency, mistakes, intellectual blindness, and other obtuse ignorance of the elementary principles of naval warfare. For the representatives of such a Russia, I have not the right to drown people.

"In choosing as my advocate the eminent counsel, C. H. Margolin, I beg to call in the capacity of witnesses, all those mentioned by me in this exposition, and, in addition, to ask, through the regular channel, Admirals Togo and Deva, for the elucidation of certain questions."

INFANTRY COMBAT IN THE RUSSO-JAPANESE WAR.

OBSERVATIONS AND PERSONAL REMINISCENCES OF THE COMMANDANT OF A RUSSIAN COMPANY.

Translated by permission of the French Minister of War from the *Revue Militaire des Armées Etrangères.*

Continued from p. 1177 *of the September* JOURNAL, *and concluded.*

III.

NIGHT FIGHTING.

NIGHT only increases the difficulty of marching and fighting; the men are especially nervous; they can distinguish neither the enemy nor their own comrades; the voice is heard with difficulty along the chain; men stumble or fall; and a useless fire without any object and without control crackles along the whole front. On the side of the enemy, a wild fire is equally opened, and, in the darkness, this deafening fusilade lasts sometimes for hours. It is particularly difficult to put a stop to a fire of this kind. Scarcely has one been to one flank to silence it and one turns to the other, than it re-opens again where it had just been stopped. Again one returns, and gives orders to cease firing, asking: "Who has fired?" "No one! It is not us," is always the reply. And at the same time a round is loosed. One can only believe that the men fire in spite of themselves.

It happens sometimes that someone startles out of his sleep and fires. Then hundreds of rifles go off, a quantity of cartridges are uselessly expended, the night passes without sleep or rest; the men are unnerved, and there are stray bullets which wound and kill some of them. And they have before them, perhaps, a whole day's—or even several days'—fighting.

While I am on this subject, I would remark that it would be of advantage that the posts should be stronger, especially at night. If they only consist of 4 or 6 men, it is difficult to count on the accuracy of the intelligence service and of its being calmly carried out. The darkness and vicinity of the enemy (I speak of posts placed at night by companies in the fighting line), the tension of the nerves after the struggle, cause a state of irrational restlessness; a rifle shot, an isolated man, an enemy's patrol, have the same effect as the advance of an entire column would have. The best means to avoid fidgety reports and alarms is to reinforce the posts sufficiently to give them confidence in themselves. Experience has shown us that with posts of 10 men

the character of the reports alter, that the men were calmer, more masters of themselves. In place of the constant and absurd reports on the march of an "enemy's column," it was only a question of patrols or solitary enemies.

Night fighting has acquired considerable importance in this war. This importance is easy to understand, if one considers that a night action deprives the defender of two powerful means of action; the fire of his artillery, and the fire of his infantry at long range.

As far back as during the period of the fighting in October, in the vicinity of Mukden, our troops had made night attacks.

Independently of the immense advantage which they offer to attacks by day, from the point of view of losses from fire, night attacks allow of the troops being advanced in close order, in mass, without intervals. Thus, for example, our regiment made an attack on the 12th October in columns of companies without intervals. The men marched cheerfully because they had suffered no losses at long range, and they were considerably smaller at short distances, and were less noticed than in the day time. The feeling of elbow to elbow, and of a solid body of men, engenders confidence, and inspirits the least resolute of them.

The defender, on the contrary, has a presentiment of the approach of danger, but he sees nothing. This state of uncertainty, joined to the imminence of the fatal blow, has a depressing effect on him. As a proof of this, even before the actual bayonet shock, single men first and then groups begin to abandon the trenches. We saw, on the 12th October, before our bayonet charge, the Japanese slip away one by one from their trenches, throwing their rifles away in order to run better.

On the other hand, night attacks are disadvantageous for finding one's way; it is difficult to strike the blow at the right spot, and to direct the troops. It is indispensable, therefore, to familiarise them by day with the country, and to point out to each his *rôle* and mission. Unfortunately this precaution is often neglected.

IV.

ON THE PSYCHOLOGY OF BATTLE.

General Observations.

I come now to the most important side of battle, the one, too, which can be least calculated upon and directed—I mean the moral side.

Although the primordial attributes of man's nature have not changed, and that, as in the past, the fear of death and the instinct of self-preservation commence to speak in him from the opening shot, nevertheless, the conditions of the battle of to-day are indubitably different from those which were present in our last war but one; they give to battle a new physiognomy.

The first characteristic of the field of battle of to-day is, that one has to deal with an invisible enemy.

When, at Yantaï, I found myself, for the first time in action, being already with my company, exposed to a violent fire of bullets and shrapnel, I could only approximately determine by the whistling of the bullets the direction from which an invisible enemy was firing

at us. I only received one order: "Occupy that hillock on the right"; I deployed my company in skirmishing order, and placed myself on the summit of the hillock, in order to discover with my glasses from where this hurricane of fire came. It was in vain that I sought for some traces of trenches, that I strove to discover someone. There was nothing and nobody.

In examining the country further, I remarked, at about a kilometre and a half ($\frac{3}{4}$ mile) in front of me, a long zigzagged crest, from where it seemed to me the bullets came. We calculated approximately the distance of this crest, and we opened fire in that direction.

This struggle, feeling one's way, it may be termed, in the dark, created a painful feeling of uncertainty and distrust. It often happened that officers and men have remained several days in occupation of a position, have been wounded, carried off the field, and sent back to Russia without having even seen a Japanese.

A second characteristic is the long ranges at which the first losses are incurred. A company begins to suffer from the fire of an enemy at several thousand yards from him, and even when separated from him by heights. Before the men can engage in the fighting, and can only see the height from which they are being fired on, they are already materially and morally weakened. Sometimes they are obliged to remain several hours under this preliminary fire, from which ensues physical and sensible moral depression, even before they take part in the fighting.

The duration of present-day battles, which, in some cases, has lasted two weeks, demands a physical and moral tension, which exhausts officers and men. It requires an enormous reserve of energy to support for several days the conditions of life which obtains on the positions.

On the same scrap of ground, it is necessary to fire, drink, eat, sleep, and die; during the day not a minute of rest under fire: at night, there is the continual and enervating waiting for a surprise attack, in complete darkness, without sleep, without being able to smoke, because the flame of a match would immediately attract a dozen bullets. Finally, continued losses in killed and wounded. The foot of the hillocks, after the first hours of the occupation of a position, are strewed with fresh graves, and the number increases every day.

The impressions that battle produces on those who are not yet hardened are difficult to translate into words, so diverse are the sentiments and sensations that the first bullets whistling past the ears provoke, or the first shrapnel bursting in proximity.

It is extremely important to be master of one's self at the beginning of the fight. What sustains one very much is the consciousness that hundreds of soldiers' eyes are watching to see what one does, and that the officers, on their side, are keeping an eye on the novice. The soldiers observe every new arrival keenly, and subject him immediately to a very critical examination. On the other hand the novelty of the impressions absorbs one, so that one pays less attention to the inner voice which marks the surrounding danger.

The rifle fire of to-day produces a strong impression; it seems as if the air is literally alive with bullets; their plaintive whistling in the atmosphere seems a murmur from above, below, and from all sides at once.

At the first rifle shot, the soldiers become serious, raise their caps, and cross themselves; pleasantries and conversation cease. But all march into action with spirit, as at a drill.

It is this spirit—I would almost say, this calmness—with which the soldiers go into action, which is most impressive.

One soon becomes familiarised with infantry fire, but artillery fire makes a very great impression, especially the fire from bursting shells. I believe that this impression is not so much caused by the losses as by the deafening uproar the fire makes. The effect is purely nervous, but violent. On those not hardened, it is the high explosive shell charged with Shimose which produces the strongest reaction; on old soldiers it is the shrapnel. The young soldiers, in the skirmishing line, at the bursting of each projectile, press their faces against the ground. Thus, the infantry pays less attention to the rifle fire, which, nevertheless, causes them the greatest losses. Artillerymen, on the other hand, are more impressed by infantry fire. This is due to the fact that each arm is more accustomed to its own fire; more, the whistling of bullets in a battery is disquieting, as indicating the proximity of the enemy, and, consequently, the imminence of danger.

In general, our soldiers behave in battle in an astonishingly simple manner, without any affectation. Those who imagine that it is possible to see something heroic in the men's faces during these decisive minutes, completely deceive themselves. Their faces are slightly pale, and have a concentrated and stern look about them. The internal struggle which is going on betrays itself by the nervous haste of their firing. This is the time when it is necessary to control one's state of mind, and bring it back to its normal self-possession, as far as that is possible in action.

The Importance of the Rôle of the Officer.

From the first rifle shot, the centre of gravity transfers itself to the officer, and it is then that his true *rôle* becomes manifest, the enormous responsibility which rests upon him.

The harder the conditions of battle are, the more desperate the struggle, the greater the losses, the more harassing the fatigue and tension of the nerves, the greater grows the responsibility of the *rôle* of the officer. The result of the action of his 200 men depends on the company commander. One might call the war of to-day the war of company commanders. Every eye-witness of a battle will confirm this statement of mine. The soldiers watch their officers with unceasing attention. It is on his judgment, his energy, his personal bravery, that their very existence depends. It is from his attitude that the men judge of the situation, the more or less extent of the peril, the success or failure of their efforts. The authority of the officer can rise to a high level, but, on the other hand . . . . . can fall very low. The worst thing an officer can do is to let the men see he is unnerved or timid; the men will get quickly out of hand and become disheartened.

In battle, the officer must be more than ever a *leader*, and the discipline must be iron. Nowhere, does the *rôle* of discipline show itself as in battle. Woe to the troops, which, in time of peace, have not been imbued to the backbone with the spirit of discipline. It will pay dearly for the lack of it in war.

I have noticed that, in the most critical moments, an energetic interjection, pronounced in a peremptory tone, calms men in a marvellous manner. As also seeing that the men's sights are properly adjusted; this tranquillises them, they forget the whistling of the bullets, put themselves in a better position for firing; they begin to take aim.

The frequent changes, which are the result of officers and men being replaced, exercise an unfavourable influence on the moral of the troops.

Thus, on the 12th October, after the attack on the Touminling Pass, there only remained two officers in the ranks of the 34th Regiment of Siberian Sharpshooters, and after the affair at Sandepu, when the officers had been anew brought up to their full strength, only four or five remained.

With regard to the men, 40 per cent. were placed *hors de combat* at Liao-Yang, and 75 per cent. at Sandepu. The regiment found itself reduced to five companies.

With such enormous losses, the fresh officers and men, who arrived continually, barely knew each other, and often not at all. It was only by taking advantage of each breathing-time in the operations that the company commander got a little familiar with his men, and that they got used to his requirements; but the first battle changed everything anew in the composition of the company; it is a kaleidoscope. The inevitable consequence of these perpetual changes is, that the organic intimate bond is broken, even in the company sections. This is why it seems to me that it will be necessary to have, in time of peace, stronger cadres, in order that, even after considerable losses, there would yet remain in the ranks sufficient men to constitute the framework of the regiment.

Particular Observations on the Russian Soldier.

In touching on the characteristics of our soldier as an instrument of war, I cannot refrain from pointing out the absolute docility with which he executes the most dangerous duties of outposts and reconnaissance. If the officer enjoys the authority and confidence which he ought to from his position, if he is careful of the interests of his men, looks after their personal needs, pays close attention to their messing, he can be certain that his company will not leave him in the lurch on the day of battle, but will follow him cheerfully, and do him credit. In general, our soldier is not disposed to be despondent. If he is fed, if he can rest, his spirits remain very good.

On a position, the first thing that he does, as soon as he can, is to sleep. In the intervals of cessation of fire, one can often hear the skirmishers snoring. Under the most violent cannonade the men sleep soundly, as in their beds. If there is a lull, and the men are not tired, they engage in animated conversation. Our infantrymen are very fond of watching the course of the struggle between the two artilleries. If our projectiles seem to fall successfully, one hears exclamations of satisfaction, and approving murmurs. If, on the contrary, it is the enemy's projectiles, which seem to fall true, then invectives are poured on the Japanese.

At every opportunity, the men boil some tea in their camp-kettles. They have an insatiable passion for tea, and they make arrangements for preparing it, even under fire. No matter where, behind a rock or

in a hole; and they always offer some to their officer, who must not refuse it or he would offend them. For the matter of that, none of us ever refuse tea.

In the most difficult moments the soldier tries to overcome difficulties, to get settled. He discovers in a twinkling of an eye some fuel, some straw; if he wants it, something to eat. In this respect the officer, when he is with his soldiers, is assured of wanting nothing.

Our soldier is incredibly improvident. It is necessary to constantly watch him like a child, especially at night, on his position, in touch even with the enemy. If he is not firing, he sleeps. In his eyes it is the business of the company commander to keep awake; as for himself, he has not to trouble himself about anything.

With our soldier, the notion of the importance and the necessity of constructing trenches, whenever it is possible, is not yet sufficiently ingrained. To lighten his burden he frequently throws away his spade, as a useless encumbrance. There are too few spades in a company; round Mukden, in October, we had in our regiment only 8 or 10 spades per company.[1] Nevertheless, even with us, we had constant recourse to the construction of shelter-trenches, especially during intervals between the operations. One may say that Manchuria is furrowed with trenches, which on end would extend some thousands of kilometres.

In spite of warnings not to drink unboiled and impure water, not to eat uncooked and unwholesome Chinese vegetables and fruits, in spite of dysentery, the soldiers quench their thirst at ponds, and stuff themselves with vegetables. When on the march he drinks all the water from his canteen at the commencement of the stage, and then suffers from thirst. How many soldiers have I seen fall, struck down by heat, their tongues black, and their eyes starting out of their sockets? No means of aiding them; the last drop of water had long since been drunk, and the battle does not wait. One could only leave them to die under a broiling sun.

It is necessary to carefully watch his reserve ration in his haversack, otherwise, for want of something better to do, he will attack it, having already dined well.

According to all reports the men of the Reserve are inferior to the men of the Active Army. They improve, however, little by little, but very slowly, after several months, and after having taken part in action.

In spite of the diverse and disadvantageous conditions of the present war, the spirit of the troops remained still full of enthusiasm after the retreat from Liao-Yang. One could observe no trace of that depression which might be expected in a beaten army. It is a rather astonishing fact.

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[1] The normal allowance of hand tools in a Russian Infantry Company is 80 hand spades (Linnemann spade), and 20 hand axes. The only other reserve of tools is carried by the divisional train; the regimental train carries nothing.

The allowance of hand tools of the Japanese infantry is rather higher and amounts to 484 tools per battalion, including the battalion reserve. This allowance, having been recognised as insufficient, the mobilised Japanese infantry will, in future, be supplied with one hand tool per combatant.

This retreat was accomplished with the most perfect calm, without precipitation or haste. In crossing the Liao-Khé our men made such an uproar, amusing themselves by ducking and splashing one another, that it was difficult to realise that the day before the regiment had been the whole day under fire, and had lost, during the few preceding days, half its effectives.

In the bivouacs the songsters in the regiment assembled, not by order, but of their own free will, to amuse their comrades. Finally, it must be noted that the *moral* of the Siberian troops was very high. The Siberians are excellent fighting material; they have won for themselves in the Far East the honourable title of the "Siberian Guard."

Nevertheless, something insensibly, but inevitably, found its way into the heart of the soldier; a spirit of depressing sadness spread throughout the army, under the influence of continual retreats, after bloody battles. Each time success, so long hoped for, seemed to be within grasp, and each time these indefatigable fighters had seen the phantom of victory elude them at the moment when they were about to seize it.

The conscious feeling that, whatever happened, the battle would terminate by a retreat, was demoralising for both officers and men. One heard the men say in the positions:—"And when is the retreat going to be ordered?" They said it without any *arrière-pensée*, without malice, as of something which always took place, and which consequently would take place again this time.

Thus, great was the relief of mind produced by the order for the offensive of the 5th October. Everyone cheered up, and a joyful humour set in again. It was now our turn to advance! Nobody troubled himself with the idea that this offensive would bring about a bloody and stubborn battle. The men marched in high spirits. Circumstances, unfortunately, did not justify this confidence, nor strengthen this enthusiasm.

In a general way it is impossible not to admire the steadfastness of our soldiers who, in spite of a constant movement in retreat during several months, and disastrous want of success, preserved a faculty for fighting with a praiseworthy obstinacy, often even with a true heroism.

In one battle alone, under my eyes, several wounded skirmishers, after a first dressing, immediately proceeded to rejoin their company on the position, without wanting to go to the ambulance. In the hospitals I have seen soldiers who would leave before their wounds were completely healed. I have seen men, who were still limping, return to their corps.

It is, above all, in the assaults that the brilliant qualities of our soldiers showed themselves. When a company charges with the bayonet, it is a force one may call irresistible. Our soldier works with the bayonet in an absolutely startling manner, without giving or asking for quarter. While rendering full justice to the Japanese soldier, it is impossible not to express the conviction that in bayonet fighting our soldiers incontestably have the advantage by the force and celerity of their thrust.

The Japanese is distinguished from our soldier by his fanaticism, his hatred of his adversary, the fruits of his primary education, by his skill and versatility. He fights with ferocity, fires into an enemy's back, who has given him quarter, sometimes bites when he has been

made a prisoner. That is why our Siberian Tirailleurs are not disposed to give quarter at the moment of the assault.

The Japanese love trickery; they cannot miss an opportunity of using it. Several of them have a good knowledge of Russian, and they frequently turn this to account. Without doubt an attentive and trained ear would recognise the Japanese pronunciation; for example the Japanese always pronounce "r" as "l." He says:—"Houla!" and not "Houra," "papilosa" (cigarette) and not "papirosa," just the same as the Chinese. But this fault is not equally marked in all of them, and a mistake is possible. With their knowledge of Russian they may deceive troops who have had no experience of their methods. Thus, for example, they challenge the sentries in Russian; disguised as Chinese they try to overhear the conversation of the officers; during fighting at night, they call out misleading orders in Russian. Thus, at the attack on the Touminling Pass, when our company debouched on the second trench, and charged with the bayonet, we heard very distinctly someone cry out from the trench: "Brothers, they are our comrades!" Involuntarily, the company slackened its pace, but the non-commissioned officer who followed the company commander, exclaimed: "Do not believe it, brothers, they are Japanese!" And he rushed forward like a dart.

Nevertheless, that moment of slackening cost the company two officers wounded, and about a dozen men. The Japanese succeeded in firing a volley almost at point blank. From another trench, the Japanese cried: "Follow me, the 10th Company!" We answered them by volleys, but on our sides we heard them again call out: "Do not fire on your own people!" Our Siberians have more quickly discovered the trap than the soldiers from Europe.

Finally, the fundamental difference that our officers and men present, compared to the Japanese, shows itself in the methods employed to heighten the *moral* of the troops before the assault. The Japanese officer marches in rear and drives his men in advance with his sword and revolver, while with us the officer rushes in advance and cries: "Follow me, brothers! Do not abandon me!"

And his men do not abandon him!!

PRACTICAL ECONOMY IN THE ARMY.

By Captain H. A. YOUNG, R.A., Indian Ordnance Department.

THERE is one aspect of the ever-green subject of Army Reform that unfortunately seems to attract little attention in the Army itself, while to the nation as a whole it is probably regarded as of far more importance than any other. I refer to the urgent need for economy throughout the whole organisation of our land forces.

A little serious thought should cause even the most conservative officer to acknowledge that the limit of reasonable expenditure has already been passed, while a study of recent speeches, both in and out of Parliament, and of Press utterances, should also convince him that no scheme of reform in the organisation of the Army can hope to obtain the approval of the country unless it is associated with a reduction in our present Army Estimates. We have truly been called a nation of shopkeepers, and to-day, more than ever before, the spirit of "commercialism" is spread through all classes of society —even the most aristocratic. This spirit of "commercialism" demands full value for money spent, and we cannot shut our eyes to the fact that the "man in the street" is absolutely convinced that for the money spent on the Army a full return is not obtained. We are proud to be able to call ourselves "soldiers of the King"; but we must remember that we are paid by the "man in the street," and that the burden of an enormous Army vote presses hardly on every payer of taxes, direct and indirect, in the kingdom.

The statement that the question attracts little attention in the Army itself is, I think, proved by the fact that of all the numerous schemes of reform, often most sound and well-considered, put forward by officers in the pages of this JOURNAL, hardly one touches upon questions of cost in any but the most casual manner, and not one even attempts to show the way to economy throughout the Service.

It is, perhaps, not altogether surprising that such a matter is neglected by officers; their training and habits are both against it. We officers are too apt to consider it our province, and ours alone, to indicate defects in organisation, drill, and equipment, and to put forward proposals for improvement. Questions of cost we prefer to leave to civilians, and thus endeavour to throw on them the burden of refusal and the consequent responsibility for an imperfect Army. The very pay and store accounts with which every officer should be familiar are usually so complicated and so tied up by scales of allowances, regulations, and red-tape that the tendency now is towards relieving him of responsibility in this direction, and thus to weaken what may be called his "money-sense." There are no prizes for the economical officer, for there are in existence no means of distinguishing between such an officer and a wasteful or extravagant one. Is it therefore surprising that the majority of officers are content to reflect that they serve the richest country in the world, and that all they have to

do is to try to keep their units as efficient as circumstances permit, and as perfectly turned out as a lavish expenditure will make them?

Some years ago it was believed that in the art of leading was contained the whole art of war, so far as the officer was concerned. Recently we have learnt by bitter experience that to the duty of leading men in action we must add two others, viz., directing men in action and training men in peace. Surely we must now recognise that officers have still another paramount duty to perform, and that is: to carry on the *business* of maintaining men in as economical a manner as possible.

The Army may be considered as a vast business organisation—a huge factory, whose output should be a number of efficient fighting units with departmental services as accessories, and whose managers are responsible to a nation of shareholders that these units are produced at the lowest possible cost. The generals and Commanding officers are the foremen of the productive or manufacturing branches of the factory, and the departmental officers are the overseers of the non-productive or store branches, and each one should be responsible to the managing directors (the Army Council), and thus to the nation, for the economical working of the branch he controls.

Not so many years ago our commercial manufacturers were happy in the receipt of large and regular dividends, and did not need to trouble themselves much about economy; so long as large profits were made it was not necessary to enquire closely into the working of each branch or to scrutinize carefully the running expenses of the factory. Nowadays there is a very different state of things, and under the pressure of a keen competition, not only from other factories in this country, but also from those abroad, they have discovered that profits vanish without perfect organisation and a relentless cutting down of every unnecessary expense.

The tendency now in all modern factories is to organise the internal system in such a way that the chain of responsibility for expenses is carried down to the very bottom; every penny or penny's worth that is expended in the factory is debited to the person or article incurring it. To this accurate debit of expenditure is added a system of comparison of monthly and yearly totals of costs under various working headings with similar costs elsewhere or in previous years.

Now, the fact that in the Army there is no question of profit is no argument against the introduction of business methods; the main principle should be the same in the Army as in any commercial business—if you want economy you must bring home to everyone concerned the expenses for which he is responsible, and, having done this, you must constantly compare such expenses with your records of similar cases, both in previous years and in other parts of your business. The essentials are "accurate and intelligent compilation of expenditure" and "systematic and intelligent comparison," and these are as applicable to the business of maintaining an Army as they are to any commercial factory or large business.

We must not content ourselves with the idea that because we serve the richest country in the world, therefore we need concern ourselves only with efficiency, or that the fact that we have a voluntary Army is a sufficient excuse for the present enormous Army expenditure. We do not, certainly, work for profits; but we can work economically, and if the cost of all that we do is shown against us and

compared with the cost of similar work done by others, our chiefs will soon be in a position to judge who amongst us is working economically.

There are, doubtless, factors peculiar to the Army business which will have to be taken into account; there are, for example, often cases where something has to be done immediately and regardless of cost; but such exceptions can always be eliminated from our comparisons should there have been no similar case before, though it might be remembered even here that such exceptions are frequently due to want of forethought, and are now hidden from view, while under these proposals they will be clearly shown up in our comparative statements, and investigation will be easy.

It is not, I think, necessary to go into much detail at this stage, in a matter like this it seems desirable to first urge the acceptance of principles, and to very briefly indicate the method of their application. I have already attempted to explain the principles which should govern us in this great Army business, and I will now endeavour to sketch the broad outline of their application.

As an example I will take the case of a battery of artillery. The annual cost to the State of such a unit is made up of a large number of items, some of which are more or less directly under the control of the commanding officer, while others are obviously beyond his power to affect. Among those which he cannot control are the pay of the officers and men forming the fixed establishment of the battery, the rental value of the barracks occupied, the cost of rations consumed, and other items that will occur to every officer. There are, however, a number of charges which he certainly can influence, such as cost of repairs to the equipment of the battery; cost of articles issued to replace others condemned; cost of horses issued in lieu of others cast; cost of all allowances, such as stationery, and materials for repair; cost of postage and telegrams; cost of upkeep and maintenance of barracks—all these require and should receive most careful watching on the part of a commanding officer, and I would have the Accounts Department keep a separate account for each unit, to which should be debited these and all similar charges. At the end of each year these accounts should be separately totalled and entered in a statement, in which would be shown the costs of all similar units, not only for the year under review but also for a certain number of previous years.

This statement would then be submitted to Army Headquarters, and it would be the duty of the highest military authorities to deal with the information thus obtained. It is obvious that such a statement will require intelligent handling, as there are factors which will prevent its rigid application. For example, a battery that has marched from one station to another, and spent some time in practice camp, will obviously incur more charges for repairs than one which has never left barracks during the year. These and similar facts should be noted in the statement, and as years go on, those responsible for an efficient and economical Army would be in possession of much valuable data.

Surely the publication of such statements would effect more real economy than any number of rules and regulations; officers would recognise, probably for the first time, their responsibility, and a spirit of emulation would soon be developed.

It is quite easy to guard against an economy obtained at the expense of efficiency; the present system of inspection by general and other officers, if worked conscientiously and intelligently, should afford sufficient safeguards. The principles I have enunciated are still more applicable to our departmental services, as most of these are distinctly commercial in their nature. Much of the transport, ordnance, commissariat, and engineer work is most certainly akin to that undertaken daily by numberless business firms in the commercial world, and should be conducted on similar lines. Charge each depôt or unit with the cost of its maintenance, add a separate account for all losses and waste, then make an approximate estimate of the annual work done and thus obtain the data for comparison which is so essential if economy is to be the rule. In the case of issuing depôts, the estimate of work done annually can be easily obtained by fixing certain values for the different classes of unit, and then working out a total for the troops dependent on such depôt.

In dealing with all departments that include store or manufacturing services, it is necessary to grasp one vital point, viz., the officials of such departments must be business men first, and officers last. This should be the motto of the Army Service Corps, and Ordnance Department, both at home and in India, and of the Supply and Transport Department in India, and it should also be the guide of all engineer officers employed on barrack work, and of all medical stores officers. In Pay and Accounts Departments it is undoubtedly the first principle that should govern their work, and the officers of these branches should further remember that accounts are a means and not an end in themselves. Accounts which do not aid in the economical working of the Army, but are confined to the mere checking of ledgers and vouchers, fail in their most vital and important object. It is certainly desirable to know that a commanding officer has a properly sanctioned voucher for each transaction in his ledgers; but, surely, it is still more necessary to know whether that officer is exercising economy in the whole of his work, and this can only be done by an intelligent use of accounts as a whole. Train all our departmental officers to business habits and methods, and we shall never hear again of what the Press and the nation call, not altogether inaptly, "Scandals."

Such briefly are the principles which will have to be followed if the Army is ever to be purged of the taint of extravagance and wasteful methods. We must get rid of the unfortunate habit of adding regulation to regulation, and of making rigid scales of allowances to fit or misfit every possible case. This is especially rampant in India; there the continuous employment of an absolutely necessary sweeper on five rupees a month requires the sanction of Government, while any general may sanction the write-off of losses of stores, due possibly to neglect, and which he cannot personally investigate, up to a value of five thousand rupees, as often as he pleases, and a commanding officer may condemn equipment to the value of thousands of rupees every quarter, practically without check. An officer commanding a battery of artillery gets a fixed annual allowance of materials for the maintenance of his equipment, and can draw it, whether the last year's supply has all been expended or not. He gets, among other things, every year some three hundred buckles of sorts and two paint brushes; but he cannot get a third brush, however

necessary, except by paying for it, not even if he does not require all the buckles. A transport unit draws a fixed monthly allowance for the repair of its transport vehicles, whether necessary or not, and the officer in charge can also obtain as many components of his vehicles as he likes, to replace others that may have become unserviceable by neglect, or that are only unsightly, and nobody knows the cost to the State of keeping that unit in working order. Everywhere we find the same principles—rigid scales and allowances on the one hand, which must, of necessity, be too liberal in some cases, leading therefore to waste, and too small in other cases, causing, therefore, discontent and probably often deterioration of equipment or of efficiency. On the other hand, we have rules and regulations which frequently allow unnecessary expenditure so long as the proper signature is attached to the voucher. In a word our control and audit of our military expenditure is limited to a check of details.

Let us resolve to shake off this uneconomical system and to show the nation that we can carry on the great business of maintaining their Army economically as well as efficiently. There is no money to spare nowadays, and every penny wasted in the Army is a loss to some more productive department of the public service. Once accept the principles here so briefly, and, I fear, so crudely set forth, and there will be no lack of directions in which to drive the road of reform. Surely the subject is one full of interest to every officer who has the interests of his country at heart, and much can be written about it; may I venture to hope that far abler pens than mine will now take it up.

NAVAL NOTES.

HOME.—The following are the principal appointments which have been made: Admiral—Sir G. U. Noel, K.C.B., K.C.M.G., to be Commander-in-Chief of the Nore. Rear-Admirals—Sir H. Barry, K.C.V.O., to Command of Third Cruiser Squadron; C. G. Robinson to be Admiral-Superintendent; S. H. M. Login, C.V.O., to Command of Portsmouth Reserve Division; G. A. Callaghan, C.B., to be Rear-Admiral in the Channel Fleet. Captain—R. N. Stewart, M.V.O., to "Goliath."

Admiral Sir G. Noel, K.C.B., K.C.M.G., who is to succeed Admiral Sir H. Pearson, K.C.B., as Commander-in-Chief at the Nore, will, it is stated, occupy the new Admiralty House which has been built at Chatham, instead of the official residence at Sheerness, which has been the home of his predecessors in the command for far longer than the present generation can remember, and Chatham will thus become the head-quarters of the command. It is not known whether the new Commander-in-Chief will continue to fly his flag in the "Wildfire," or whether another vessel is to be selected.

The new first-class battle-ship "Dreadnought," which was commissioned at Portsmouth on the 1st ult., has been carrying through her steam trials, which are reported to have been not only extremely successful, but to have exceeded the high expectations which had been formed of the likely performance of her turbine engines.

The second-class cruiser "Minerva," forming part of the Third Cruiser Squadron in the Mediterranean, arrived on the 1st ult. at Devonport from the Mediterranean, paid off on the 10th ult., recommissioning on the following day, and leaving again on the 19th for a further term of service with the Third Cruiser Squadron in the Mediterranean.

Steam Trials. — H.M. armoured cruiser "Natal," constructed by Messrs. Vickers, Sons, & Maxim, Limited, Barrow-in-Furness, has completed all the steam trials specified in the contract, and the results are, in every instance, very satisfactory, the efficiency in some respects exceeding that in other ships of the class. The "Natal" belongs to the "Duke of Edinburgh" class, and is 480 feet long between perpendiculars, 73 feet 6 inches beam, and at 27 feet draught displaces 13,550 tons. She carries 2,000 tons of coal, in addition to a large quantity of oil fuel in the double bottom. She is particularly well protected, for the most part with 6-inch armour, and has six 9·2-inch and four 7·5-inch guns, mounted singly above the upper deck in barbettes of 6-inch armour. The boiler installation includes six cylindrical boilers, 13 feet 6 inches in diameter by 9 feet 7 inches long, with a collective heating surface of 11,310 square feet, and a grate area of 327 square feet, and nineteen Yarrow water-tube boilers, with an aggregate of 55,534 square feet of heating surface and 971 square feet of grate area. The following figures summarise the results of the boiler performance:—

—	At One-fifth Power.	At Seven-tenths Power.	At Full Power.
Heating surface per I.H.P. of main engines sq. ft.	7·15	4·2	2 82
Coal consumed per sq. ft. of grate surface lb.	16·2	22·4	39·25
I.H.P. per sq. ft. of grate area	8	12	17·6
I.H.P. per ton of machinery	...	7·3	10·75

Some of the official results of the three trials are reproduced in the Table below; and the speed is particularly satisfactory. At 15,937-I.H.P. the rate maintained throughout the thirty hours' trial was 21·35 knots; this was deduced in the usual way by taking on the measured mile the revolutions required to give this rate; this was corroborated further by the speed over long-distance runs during the progress of the trial. Although the designed power was only exceeded by 92-I.H.P., being 23,592-I.H.P., the speed attained—23·344 knots—was fully one nautical mile in excess of that anticipated by design, which suggests a high efficiency in the propeller and the minimum of friction in the machinery. The results prove that, with the coal and oil fuel supply carried, the radius of action at 14½ knots is 6,700 miles; at 20½ knots, 3,500 miles; and at full speed, 2,300 miles. The period embraced by the trials, it may be added, was considerably protracted owing to fog. In connection with the thirty hours' run at one-fifth power, three unsuccessful attempts, of considerably over thirty hours' duration collectively, were successively made, the ship being at sea for fifty hours. But in accordance with Admiralty practice, the thirty hours' trial had to be an uninterrupted run. The "Natal" will now be completed for commission.

		8 hours' full power		30 hours' consumption trial at 15,700 I.H.P.		30 hours' consumption trial at 4,700 I.H.P.	
Duration of trial							
		Forward	Aft	Forward	Aft	Forward	Aft
Draught of water		26ft. 5½in	27ft. 6½ in	26ft. 7½in	27ft. 5½in	26ft. 9in	27ft. 2in.
Speed of ship (knots) from measured mile		23·344		21·35		14·8	
		Starb'd.	Port.	Starb'd.	Port.	Starb'd.	Port.
Revolutions per minute ...		137.3	136·5	123·6	123 9	83 66	82·83
Mean I.H.P.	High	3,367	3,361	2,408	2,414	682	756
	Intermediate ...	3,818	3,812	2,594	2,581	899	882
	Low, forward ...	2,270	2,336	1,398	1,486	442	433
	Low, aft	2,360	2,268	1,513	1,543	429	390
Total		11,815	11,777	7,913	8,024	2,452	2,461
Grand total		23,592		15,937		4,913	
Consumption of coal per I.H.P. per hour		2·01 lb.		1·8 lb.		2 03 lb.	

The new first-class battle-ship "Britannia" successfully completed her steam trials in July, the results being as follows:—

Thirty hours' special trial with group of six water-tube boilers with saturated steam, about one-fifth power, run on July 6th and 7th.—Steam in boilers, 196; mean total I.H.P.—starboard, 1,683; port, 1,838; mean coll. I.H.P., 3,521; mean speed of ship, 11·44; mean coal consumption per

I.H.P. per hour, 2·07; total loss of water, 14·68. Thirty hours' special trial with group of six water-tube boilers with superheaters, about one-fifth power, run on July 9th and 10th.—Steam in boilers, 200; mean total I.H.P.—starboard 1,668; port, 1,742; mean coll. I.H.P., 3,410; mean speed of ship, 11.5 p. log; mean coal consumption per I.H.P. per hour, 1·77; total loss of water, 14·08. Thirty hours' coal consumption, about seven-tenths power, on July 14th and 15th.—Steam in boilers 199·4; mean total I.H.P.—starboard, 6,396; port, 6,682; mean coll. I.H.P. 13,078; mean speed of ship (mean of six runs), 17·115; mean coal consumption per I.H.P. per hour, 1·5lb.; total loss of water, 23·01 tons. Thirty hours' special trial, about two-fifths, on July 20th, port main engines with superheated steam, starboard main engines with saturated steam.—Steam in boilers—starboard, 205; port, 205; vacuum — starboard, 27·0; revolutions per minute — starboard, 93·0; port, 92·2; mean total I.H.P. — starboard, 3,461; port, 3,400; mean speed of ship, 14 knots p. log; mean coal consumption—starboard, 1·64; port, 1·65; total loss of water, 322 tons. Eight hours' steam trial, full power, on July 17th.—Steam in boilers, 198; vacuum—starboard, 25·5; port, 26·0; revolutions per minute—starboard, 127·4; port, 127·2; mean total I.H.P.—starboard, 9,320; port, 9,304; mean coll. I.H.P., 18,624; mean speed of ship (mean of six runs), 18·744; mean coal consumption per I.H.P. per hour, 1·83; total loss of water, 11·48 tons; water used per I.H.P. per hour, 18·55lb.

The "Gadfly," the first of the new class of torpedo-boat destroyers, carried out successfully on the 27th ult. her official full-speed trial. The vessel, which was built by Messrs. Thornycroft & Co. at their Chiswick works, is fitted with Parsons turbines and Thornycroft water-tube boilers, the latter being fired with oil fuel by means of the Admiralty oil fuel apparatus. The vessel is 168 feet long, 17 feet 6 inches beam, with a maximum draught of about 6 feet 6 inches. The turbines are arranged to drive three shafts, half the power being on the central shaft, and one-quarter on each of the wing shafts. The low-pressure and astern turbines are on the centre shaft, and to it is also connected the cruising turbine for low speed. The vessel was practically complete for handing over to the Admiralty, including armament and her load of 24 tons, representing stores, ammunition, etc., and she carried sufficient oil with some margin for the eight hours' trial at the contract full speed of 26 knots. The mean speed obtained during the eight hours' trial was 27·336 knots, the speed being estimated in the usual way from six runs on the measured mile at the Maplin Sands, taken during the fifth hour of the trial. The mean speed for the six runs was 27·505 knots. The oil consumed during the trial was 22·8 tons, which works out at about 1¼ lbs. per H.P. per hour. The steam was steadily maintained at the right pressure throughout the trial, and the revolutions gradually increased as the boat became lighter. Further, there was no reason why the trial should not have been continued until the whole of the 40 tons capacity of the oil tanks was consumed. Such a result would not, of course, have been possible with coal-burning boilers and reciprocating machinery. It was noted that during the trial there was practically no smoke, and the funnels were quite cool.

On the following day a series of steering and circle turning trials were successfully carried out. Trials were also made of the capabilities for stopping, starting, and going astern, and these were found to be practically the same as with an ordinary single screw torpedo-boat. The vessel was steamed astern for a quarter of an hour with the centre propeller revolving at two-thirds the revolutions required for 26 knots. A

run over the measured mile showed a speed of about 12 knots. The vessel was afterwards run for a quarter of an hour with the centre shaft revolving at 699 revolutions, giving a speed of approximately 13 knots. The vessel is still to carry out the 24 hours' consumption trial at cruising speed, gun trials, and torpedo trials, after which she will return to Chiswick for examination of machinery and handing over to the Admiralty. —*Times* and *Engineering*.

FRANCE.—The following are the principal promotions and appointments which have been made: Rear-Admirals—A. M. Thierry to the Command of the Atlantic Naval Division; C. T. Rouvier to Command of Algerian Naval Division. Capitaines de Vaisseau—I. M. S. Lephay to "St. Louis"; V. B. Sénès to "Charles Martel"; B. M. De Saint Pern to "Kléber"; F. P. Morcau to "Desaix." Capitaines de Frégate—E. A. Papaix, H. V. Barbin, C. De Marliave to Capitaines de Vaisseau; M. H. Mercier de Lostende to "Bombe" and Command of the First Channel Torpedo Flotilla; I. E. Guilhon to "Ibis"; L. M. Tonnelier to "Saint Barbe" and Command of the First Ocean Torpedo Flotilla; H. L. Philippe to "Couleuvrine" and Command of Third Ocean Torpedo Flotilla.—*Journal Officiel de la République Française*.

Movements of Ships.—The first-class protected cruiser "D'Entrecasteaux," lately flying the senior officer's pennant in the Indian Ocean, left for Saïgon on the 15th August, where she is, under the new redistribution of the fleet, to become the flag-ship of the China Division, taking the place of the first-class armoured cruiser "Montcalm"; the second-class cruiser "Descartes," from the China Squadron, takes the place of the "D'Entrecasteaux" in the Indian Division, while the second-class cruiser "Alger" is to relieve the first-class protected cruiser "Guichen" in China. The second-class armoured cruisers "Bruix" and "Chanzy," at present in reserve at Toulon, are to commission for service in the China Squadron, while on the 1st November the present armoured cruiser division on that station, consisting of the three sister first-class cruisers "Montcalm," "Amiral Du Gueydon," and "Dupetit Thouars," are to leave Saïgon on their return home.

Steam Trial. — The new first-class battle-ships "République" and "Patrie" have successfully completed their trials. The Minister of Marine, M. Thompson, came from Paris specially to attend the final full-speed trial of the former, which took place off Brest, in which dockyard the ship has been built. The trial results of the "République" were as follows:—With the central engine alone working and making 39 revolutions and developing 1,500-I.H.P., and three boilers in use, a speed of 7·5 knots was maintained. On the 24 hours' run, with the engines developing 10,332-I.H.P., and the two side ones making a mean of 102·5 revolutions and the centre one 93, a speed of 16·8 knots was maintained, with a coal consumption per square metre of heating surface of 64 kg. (141 lbs.), and per I.H.P. per hour of 746 gr. (1¾ lbs.), the contract allowing for 800 gr. (1¾ lbs.). With the engines developing 18,000-I.H.P., 500-H.P. over the contract, a speed of 18·8 knots was maintained for four hours, with a coal consumption of 123 kg. (271 lbs.) per square metre of grate surface per hour. At the final full-speed four hours' trial the engines developed 19,626-I.H.P., being 2,126-H.P. over the contract, a speed of 19·15 knots was maintained, being more than a knot over the

contract, with a coal consumption of 117 kg. (258 lbs.) per square metre of grate surface.

The trials of the "Patrie," which was built by the La Seyne firm at their yard near Toulon, were also completely successful. The results were as follows:—With the central engine alone working and developing 1,233-I.H.P., a speed of 7·9 knots was maintained, with a coal consumption of 590 gr. (1¼ lbs.) per I.H.P. per hour; with the engines developing 11,660 I.H.P., during a 24 hours' run, a mean speed of 17·8 knots was maintained, with a coal consumption of 715 gr. (1½ lbs.) per I.H.P. per hour; at the preliminary four hours' full-speed trial, with the engines developing 17,350-I.H.P. and making 114 revolutions, a speed of 19 knots was maintained, with a coal consumption of 835 gr. (1¾ lbs.) per I.H.P. per hour; at the final official four hours' full-speed trial, with the engines developing 17,859-I.H.P., 359-H.P. over the contract, a speed of 19·125 knots was maintained, being rather more than a knot over the contract, with a coal consumption of 115 kg. (253½ lbs.) per square metre of grate surface, the contract allowing for a consumption of 120 kg. (264½ lbs.).

The gun trials of both ships were equally satisfactory, twelve rounds being fired from the four 12-inch guns in each ship, thus effectually disposing of the rumour which has been circulated that owing to a miscalculation the turrets were too small, and the guns could not be worked, which would delay the completion of the two ships for months, as it would be necessary to remove the old turrets and build new ones.

The well-known naval authority and ex-Minister of Marine, M. Lockroy, has been contributing a series of letters to the *Temps*, the first of which appeared on the 11th August:—

"The law which fixes the age limit for retirement from the Navy, though no doubt a wise measure, has sometimes absurd consequences. It is a wise law because in this world there should be a limit to all things, and because the most richly endowed military genius cannot exercise command from the death bed, it works none the less absurdly in some cases because all officers have not the same temperament, and do not enjoy an equal measure of good health, so that men with constitutions physically and morally weakened retain their position in the service, while others in possession of full energy and strength and who might still render eminent service to the State are placed on the retired list.

"This latter is the case of Admiral Fournier; he has to retire next May when never in the course of his glorious career has he shown greater initiative and inventive power, or proved himself more able to resist fatigue. Living with him as I have lately, on board the 'Brennus' for the three weeks of the Naval Manœuvres, I have been able more than ever to appreciate the value of this admirable seaman and 'savant,' and I can estimate the loss to the French Navy which his retirement will entail.

"New tactics were being introduced.

"The history of naval tactics is a curious one. Some time ago a Special Committee was wisely appointed to report on the matter and draw up new tactical regulations for the fleet; it was composed of a few eminent sailors such as Admirals Gervais, de Maigret, and Fournier. Two years would barely have sufficed for producing the report anxiously awaited by the fleet, as up to the present we have only had for its guidance tactical rules drawn up in the year 1832, very valuable ones

no doubt, but now requiring revision to bring them up to date. Naval tactics is not a matter of little consequence as some imagine, the manœuvres of Togo at Tsushima prove this—unfortunately the fatality which in our country attaches to all that concerns the National defence made M Pelletan Minister of Marine just at the time when the Committee had completed its labours, and the same ingenious will that had delayed the completion of the battle-ships of the 1900 programme by two years, stopped the building of submersibles and abolished Naval Manœuvres, now buried the report on naval tactics, it being relegated to a pigeon hole, where no doubt it still lies; it had been perused by the Minister, but his remarks were such curious reading that no one could bring themselves to order the printing of the manuscript, while those who have seen it when speaking of it can hardly keep their countenance. They are wrong though to laugh, the decision arrived at was perfectly logical—we had abolished Naval Manœuvres, we had no more submersibles, no more fleet, so what need of tactics?

"The national catastrophe, known by the name of the Pelletan Ministry, produced its effect, the Committee broke up, some being retired and others appointed to other posts, Admiral Fournier being the sole survivor. Not wishing, however, that his previous labour should be in vain, he set to work again and compiled another book on tactics, which is another great service rendered by him to the State.

"Naval tactics have been too long neglected by us, and by resuscitating them and obliging the Naval Staff and our Officers generally to think out the great problems of War, he has done incalculable service.

"In re-establishing the Naval Manœuvres this year which had been so stupidly discontinued, the present Minister of Marine has taken a wise course and has approved of an expenditure of public money which perhaps may save us from the defeat which others had done their best to render certain.

"All the Navies of the world carry out Naval Manœuvres on a large scale. England has just been having sensational ones. France would have been the only Great Power which did not seek to educate its fleet in perfecting the methods of attack and defence. It is a curious conception of Government to stop all work in the dockyard, and also condemn our ships and crews to inaction.

"This year Bizerta has afforded an object lesson and the insufficiency of its garrison and the absence of defences on the landside have been fully proved, and should give the authorities food for reflection.

"The sea-front is formidable, but the Arsenal of Sidi Abdallah, situated at the far end of the lake and at a distance of several kilometres from the port of entry is exposed to the attacks of an enemy disembarking either to the east or west along the coast, where fine stretches of sandy beach seem almost to invite the invader, and once landed he would be able to march straight in the Arsenal without encountering any battery or fortification. Bizerta would then find itself in a position analogous to that of Port Arthur and Santiago de Cuba.

"Bizerta has cost us 100 millions of francs, and it is well worth it. It is the most important strategic position in the Mediterranean, far superior to Gibraltar or Malta; is it not therefore worth defending at all costs, both on the land and sea-sides, against a hostile landing as well as against bombardment? The money we have spent will be thrown away if we do not put the place in position to resist all attacks. I am not in favour of a large expenditure and making the place a fortress, but advise the construction of certain well-placed works able to hold the

advance of an enemy, and give time for the Army of Algeria to arrive on the scene. Officers who have studied the question calculate that four or five millions (£160,000 to £200,000) would be sufficient; is this asking too much, bearing in mind that it is a question of the security of our finest Naval base?

"The admirable operation conducted by the landing parties of the fleet during their visit have shown the necessity for providing for the defence of the Arsenal. I only wish that the Government and all Parliament as well could have been present at these instructive operations; credits for the full amount necessary would have been voted the same evening.

"I learnt much during the three weeks I spent on board the 'Brennus,' amongst other things that there are certain expenses which are real economies, nothing is more costly than defeat.

"The Navy is costing us more and more. Our gunnery schools, which formerly fired inexpensive munitions for target practice, now use full charges and fighting projectiles, we are obliged to build ships of 18,000 to 19,000 tons, and this entails the work of enlarging our docks and constructing new ones, it is the same also with most other things; on the other hand it is impossible to still further increase our military expenditure, what therefore ought we to do? Economise, say some, and meet this increased expenditure by your savings; all very true and wise, but when we come to consider the economies to be made we do not seem to make progress. Reduce your general expenditure; yes, but what general expenditure?—that is the point. I will endeavour to discuss this in a further letter."

The New First-class Armoured Cruiser "Ernest Renan."—On the 9th April, the French armoured cruiser "Ernest Renan," the largest and most powerful yet laid down in France, was launched at St. Nazaire, and the following interesting description of her has been abridged from the *Engineer*:—

Her general dimensions are as follows:—Length at load water-line, 157 m. (515 feet 1 inch); breadth, extreme, at load water-line, 21·36 m. (70 feet 1 inch); draught on a displacement of 13,644 tons, 8·18 m. (26 feet 10 inches); total coal capacity, 2,300 tons; estimated speed, 23 knots.

Protection is afforded by a complete water-line belt of 3·70 m. (12 feet 3 inches) in width, having a maximum thickness of 150 mm. (6 inches) for about 90 m. (296 feet) amidships, the thickness is gradually decreased 100 mm. (4 inches) and 80 mm. (3·2 inches) at the stem and stern. The two strakes of the belt side armour extend from 1·40 m. (4·5 feet) below the water-line to 2·30 m. (7 feet 7 inches) above the same, from the lower to the upper protective decks. The heavy side armour strake has a maximum thickness amidships and at the water-line of 150 mm. (6 inches), tapering gradually to the lower edge, where it is only 129 mm. (5·2 inches), and from amidships to the ends where the thickness is 100 and 80 mm. (4 inches and 3·2 inches); the second strake is 130 mm. (5·2 inches) thick amidships, and only 80 mm. (3·2 inches) at the stem and stern. Abaft the belt side armour extends only to a few feet aft of the rudder, and there an athwartship armoured bulkhead extends to both sides and from the lower to the upper protective decks. An armour strake extends from the stem to the fore casemates, and reaches from the top of the water-line belt to the lower edge of the gun deck, and is 56 mm. (2·2 inches) in thickness.

There are two armoured athwartship bulkheads extending from the shell plating at the ends of the casemates to the 194 mm. (7·7 inches) barbettes, and 150 mm. (6 inches) thick throughout. There are two protective decks extending from the stem to the stern, the lower deck being flat amidships, but sloped at the sides throughout and at each end. It will be built of 38 mm. (1½ inches) plating throughout, with nickel steel of 46 mm. (1·84 inches) on the flat, and of 63 mm. (2½ inches) on the slopes. The upper protective deck is flat, and will be built of 38 mm. (1½ inches) double plating. The side protection is completed by a coffer-dam extending from the upper protective deck level to the lower protective deck level, and worked from end to end of the vessel. Behind this coffer-dam there is a water-tight bulkhead worked from stem to stern; the space between the coffer-dam and the water-tight bulkhead is used in its upper part as a passage for repairing breaches in the coffer-dam, and in its lower part as a waterway for the water coming through the breaches. Teak backing is fitted behind all the side armour. The space between the belt side armour, the water-tight bulkhead and coffer-dam, and the two protective decks, is called "la tranche cellulaire de protection"; its numerous compartments are either empty, or packed with cellulose or other approved water-excluding material, or filled with coal, fresh water, etc. The ammunition passages, funnels, air pipes, etc., going through the "tranche cellulaire," are protected by an annular coffer-dam extending from the lower to the upper protective decks. Above the upper protective deck is the "gaillard deck," or gun deck, extending from stem to stern; above this deck is the spar deck, extending from the stem to the astern turret. On the spar deck is a large bridge.

The conning tower is on the bridge deck, between the fore turret and the fore mast. The conning tower and shield will have a thickness of 200 mm. (8 inches). An armoured tube 890 mm. (35·6 inches) in diameter will extend from the base of the conning tower to the protective deck, and will be 125 mm. (5 inches) thick throughout.

The engines will be three in number, 4-cyclinder, triple-expansion type, developing combined 36,000-I.H.P., steam being provided by forty-two boilers of the "Niclausse" type, placed in water-tight compartments.

The coal bunkers are to have a maximum capacity of about 2,300 tons. With the ordinary stowage of 1,354 tons the steaming radius will be at 10 knots 7,500 miles, and with 2,300 tons 12,000 miles. At full speed the steaming radius is to be 1,026 and 1,630 miles respectively with ordinary and maximum supply. A certain quantity of liquid fuel will be shipped in special tanks and in the double bottom.

The armament will consist of four 194 mm. (7·6-inch), twelve 164·7 mm. (6·4-inch) guns, twenty-four 47 mm. (3-pounder), and three 37 mm. (1-pounder) guns. The battery will be mounted as follows: The 194 mm. guns in pairs in two electrically-controlled, balanced, elliptical turrets on the centre line, one forward on the spar deck, the other aft on the gun deck. The 164 mm. guns, of which eight are in electrically-controlled balanced, elliptical turrets on the spar deck side, four on the port, and four on the starboard side, two at each end of the superstructure. The 194 mm. barbettes extend from the protective deck to the spar deck for the fore barbette, and to the gun deck for the aft barbette, and consist of 160 mm. (6·4 inches) armour in front, and 120 mm. (4¾ inches) in the rear; the barbettes will not have any special framing, the connection of the armour with the decks being sufficient. The turrets will have a front plate 160 mm. (6·4 inches) thick, rear plate, 120 mm. (4¾ inches) thick, and top plate 39 mm. (1·6 inches) thick, with the upper

tube 80 mm. (3·2 inches) thick, and lower tube of 30 mm. (1·2 inches) in thickness.

The 164 mm. (6·5 inches) barbettes will be 140 mm. (5½ inches) thick in front, and 100 mm. (4 inches) in the rear, with the upper tube, 70 mm. (2¾ inches) thick, and the lower tube 20 mm. (·8 inch) thick; the turrets will have front plate 140 mm. (5½ inches) thick, and rear plate of 100 mm. (4 inches), and top plate 39 mm. (1·6 inches) thick.

The armour casemates extend from the top of the water-line belt to the lower edge of the gun deck for the forward casemates, and is 140 mm. (5½ inches) in thickness; the athwartship bulkheads at the ends of these casemates extend from the shell plating to the 194 mm. (7·7 inches) barbettes, and are 164 mm. (6·6 inches) thick throughout. The casemate armour around the 164 mm. (6·5 inches) guns on the gun deck is of nickel steel, the front plate is 140 mm. (5·6 inches) in thickness; the splinter and inner plates are 60 mm. (2·4 inches) thick, the floor and top plates are 30 mm. (1·2 inches) thick.

The casemate guns are arranged to fire right ahead and right astern respectively. Two 7·7-inch. guns and six 6·5-inch guns will fire right ahead or right astern, and four 7·7-inch guns and six 6·5-inch guns will fire on the broadside. There will be six 3-pounder guns on the gun-deck, ten of the same size on the spar-deck, and eight on the bridges. There will be two submerged torpedo tubes of 18 inches diameter.

Magazine bulkheads adjacent to heated compartments, such as fire-rooms, engine-rooms, dynamo-rooms, etc., are provided with air spaces. The shell rooms for the 7·7-inch guns are at the foot of the barbettes; the magazines and shell rooms for the 6·5-inch guns and small guns are between the main engine and fire-rooms compartments, and are so arranged that about one-half of the ammunition will be carried at each end of the ship. The ammunition will be conveyed directly by hoist from the ammunition rooms, or ammunition passages, to the deck where they are required, or as near that as possible. The hoists will be driven by electric motors; for transporting the ammunition, trolleys on rails will be provided in the handling rooms, passages, and shell rooms.

The keel of the cruiser was laid down on the 21st of October, 1903; the vessel, as has already been stated, was launched the 9th of April last. The vessel will, it is said, be delivered to the navy on the 5th of August, 1908.—*Le Yacht*, *Le Temps*, and *Engineer*.

United States.—*Naval Bureau of Ordnance*.—The annual report of Rear-Admiral N. E. Mason (1905-6), Chief of the Naval Bureau of Ordnance, shows a very satisfactory condition of things. The manufacture of guns has made good progress, but, working three shifts night and day, the gun factory has not been able to keep up with the demand for guns, and private manufacturers have been called upon. An appropriation of 3,300,580 dollars for the improvement of the gun factory plant is asked for by the superintendent, but only partially recommended by the Bureau because of our national poverty.

Relations with the Army ordnance have been most cordial, and there has been a useful interchange of information between the two Services. To equip the whole Navy with Army rifles, machine guns, and ammunition, 1,100,000 dollars is asked for. An attempt is being made to establish uniformity in Navy and Army ammunition.

The rapid erosion of high-powered, large calibre guns has been only partially remedied, and they must soon be re-lined. A reserve of at least

one-fourth of all calibres is to be provided. Improved gas-checks, gas-ejectors, and gas-ejector attachments for rammers are being experimented with. The maximum strain on mounts is to be reduced by a new coil adopted. Designs have been completed for nearly all types of broadside mounts, and it is hoped to equip all the important vessels with these during the current fiscal year. The new model telescope for sights is a great improvement. All vessels are to be equipped with improved bore sights. The results of these improvements thus far is shown in improved target practice.

Money has been saved by the satisfactory employment of civilian inspectors. Progress has been made in securing smokeless powder of greater stability and ballistic efficiency, and an attempt is being made to get rid of the 3,500,000 lbs. of brown prismatic powder so as to provide storage room for the new powder. No satisfactory shell of large calibre has yet been obtained. Base percussion fuses of marked superiority have been obtained.

There has been a material increase in the delivery of armour, though, owing to the sharp competition between ship builders, the complaints of delay in the receipt of armour continues. The output has reached its maximum, and all outstanding contracts should be completed within fourteen months. Then the armour manufacturers will turn their energies in other directions.

The work of installing a well standardised system of battery control on all vessels will soon be completed. An attempt is being made to substitute telephones for voice tubes on board ship, but thus far without success.

The Bureau is about ready to proceed to manufacture satisfactory and efficient torpedoes on a large scale. Estimates are submitted for putting the new torpedo, which is equal in efficiency to any, on the "Maine," "Missouri," "Ohio," and the sixteen torpedo-boat destroyers. War exercise tests of submarines are under way.

The report contains an account of the accidents to the 8-inch gun on the "Iowa," and the 12-inch at the Proving Ground, and of the reorganisation of the professional staff of the Bureau. The Bureau cannot too strongly record its appreciation of the loyal and capable support of the professional assistants. Their zeal and efficiency has made possible the successful administration of the affairs of the Bureau. The Bureau desires to express its appreciation of the services in this capacity of Captain A. R. Couden, U.S. Navy, who, from long experience with ordnance work of all kinds, is thoroughly equipped for the duty. The work of the Special Board on Naval Ordnance has continued to be of much value. The civilian employés are commended for their zeal and intelligence, and more of them are asked for.

An account is given of the special instruction of officers in ordnance, already fully described here. Additional material is required for advanced base material, and it is estimated for. The report concludes with an account of the work of the Bureau at the various centres of ordnance work and depositories of Ordnance *matériel.—U.S. Army and Navy Journal.*

Battle-ships "Idaho" and "Mississippi." — The "Idaho" and "Mississippi," which were launched at the end of last year, are sister battle-ships that were authorised by Act of Congress, 3rd March, 1903, which specified that the ships were to have the

highest combination of speed, defensive armour, battery power, and coal endurance compatible with a displacement of 13,000 tons. The design of these ships was promptly taken up by the Bureau of Construction, and on 27th May the Chief Constructor presented to the Board on Construction five different scale designs for these vessels. On 10th June, 1903, the Department adopted the report of the Board, and the contract for the two vessels was ultimately let to the Cramp & Sons Company, of Philadelphia, where the vessels are now under construction.

Although we are not familiar with the features of the alternative designs which were submitted to the Board on Construction, it is evident that in the selection of the accepted design the Board was influenced by the desire to make the two ships conform, as far as possible, to the 16,000-ton battle-ships of the "Connecticut" class, to which they have been compared, in language more expressive than nautical, as "smaller editions." A difference of 3,000 tons in the displacement of two battle-ships is a large one, of course, and involves considerable sacrifice. In the first place, the length on the water-line has been reduced from 450 to 375 feet; the beam is about the same, 76 feet 10 inches for the "Connecticut" and 77 feet for the "Idaho," and the respective draughts are 24 feet 6 inches for the "Connecticut" and 24 feet 8 inches for the "Idaho." From this comparison, it looks as though the under-water body of the "Idaho" must be somewhat finer than that of the larger ship. A large saving has been made in the engine and boiler-room weights, the designed I.H.P. being reduced from 16,500 in the "Connecticut" to 10,000 in the "Idaho." With this there is a corresponding reduction in the space given up to the coal bunkers, the "Connecticut" carrying a maximum of 2,200 tons, as against 1,750 tons on the "Idaho"; but, on the other hand, there is a marked gain in the steaming radius at 10 knots per hour, the smaller vessel being able to steam 5,775 knots as against 5,275 for the "Connecticut." The estimated speed on trial, however, of the "Idaho" is but 17 knots, or one knot less than that of the big ship.

A further reduction of weights, a very large one in itself, is gained in the lowering of the quarter deck. In the "Connecticut," the upper deck is continuous from stem to stern; in the "Idaho" it extends from the bow to the after end of the central broadside battery, at which point the freeboard is reduced by about 8 feet, or from, say, 21 to 13 feet. While there is a considerable loss of accommodation, this cutting down of the topsides is accomplished with a very considerable lowering of weights, and a consequent increase in stability. There is, however, a loss of "command" for the after pair of 12-inch guns. Still another reduction has been made in the absence of the mainmast, the new ships carrying only a foremast, as is the case with the "Oregon" class. A reduction has been made in the armament, which includes the removal of four 7-inch guns, eight 3-inch guns, six 3-pounders, and four 1-pounders. Not only is the weight of these twenty-two guns removed, but also the weight of their mounts, ammunition hoists, and large stores of ammunition.

The battery consists of four 12-inch guns, eight 8-inch guns, eight 7-inch, twelve 3-inch, twelve 3-pounders, eight 1-pounders, two 3-inch field guns, two machine guns, and six Colt automatic guns. The 12-inch guns are carried above two main barbettes, protected with armour varying from 10 inches to 6 inches in thickness, the turret armour varying from 12 inches to 8 inches in thickness, the thinner armour of the barbettes being used in the lower portions, where the barbettes are protected by the armour plating of the ship. The 8-inch guns are carried in four barbette turrets at the four quarters of the ship, the turret armour being

6½ inches and 6 inches in thickness, and the barbette armour 6 inches and 4 inches in thickness, while that of the sub-barbettes, or that portion which lies behind the 7-inch protection of the ship's side armour is 3¾ inches in thickness. Eight 7-inch guns are carried in a central broadside battery, which is protected by 7 inches of armour, and they are mounted in recessed ports with semi-circular shields that fit closely the port openings. One and one-half-inch transverse armour walls, or screens, project from the ship's side between each pair of guns, for the purpose of localising the effects of bursting shell. The dozen 3-inch guns are mounted as follows :— Two forward in the bow in sponsons, four upon the upper deck, in broadside between the 8-inch gun turrets. On the superstructure deck are four more guns, two forward and two aft, while the remaining two are carried at each end of the main bridge. The 3-pounders and machine guns are distributed through the bridges and in the tops. Two 18-inch Whitehead torpedo discharge tubes complete the armament of these very formidable vessels. The ships are protected at the water-line by a continuous belt of armour (and, by the way, all the heavier armour is of the cemented Krupp steel type), which is 9 inches in thickness at the top and 7 inches at the bottom in way of the machinery spaces, and this armour reduces toward the ends of the ship successively to 7 inches, 5 inches, and 4 inches in thickness. The ship's side from the main belt to the main deck is protected, for nearly two-thirds of the ship's length amidships, by a wall of 7 inches of armour, and there are athwartship bulkheads also 7 inches in thickness.

Now, although we consider it unfortunate that Congress should have limited the size of these two particular ships to 13,000 tons, preferring to have seen them of the same displacement and identical in all the features of speed, armour, and armament with the vessels of the "Connecticut" class that are now authorised or under construction, it must be admitted that the Bureau of Construction has turned out a most excellent design on a limited displacement; for the armour protection and the battery power of the "Idaho" and "Mississippi" are, we consider, fully equal to that of any of the largest of the foreign battle-ships that are at present being built. For their size they are the most effective battle-ships in the United States Navy.—*Scientific American.*

Trial Trip. — The new first-class battle-ship "Georgia," on her official trial off the Maine coast on the 14th June, proved herself the fastest vessel of her class in the Navy, and she made a record of 19·26 knots an hour, exceeding by more than a quarter of a knot the speed required by her contract. All conditions were favourable. The starting line was between Rockland and Mohegan, and the course extended out to sea in a long circle, terminating at the end of four hours near Cape Elizabeth light-ship. The first hour's run was the best, 19·33 knots being made. On the second hour 19·27 knots were made, 19·241 in the third, and 19·20 in the final hour. During the last hour the supply of picked coal gave out, and ordinary fuel was used. This reduced the speed for that hour, and brought the average down correspondingly. On the builders' trial, held on the 13th June off Rockland, the indications were that 118·9 revolutions of the propeller a minute would develop the contract speed required. The average attained on the 14th June was 122·28 revolutions a minute.—*U.S. Army and Navy Journal.*

MILITARY NOTES.

HOME.—The following are the principal appointments which have been made :—

Major-Generals—D. Haig, C.V.O., C.B., to be Director of Military Training at Headquarters. J. K. Trotter, C.B., C.M.G., to command the Troops in Sierra Leone.

Colonels—W. H. H. Waters, C.V.O., C.M.G., from h.p., to be a Brigadier-General to command the Troops in North China. F. C. Carter, from h.p., to be a Brigadier-General to Command a Sub-District in South Africa. H. A. Walsh, C.B., Chief Recruiting Staff Officer, to be A.A.G. for Recruiting at Headquarters. E. F. H. McSwiney, C.B., D.S.O., I.A., to be a Colonel on the Staff in India. W. F. Cleeve, from h.p., to be a Commander of Garrison Artillery. Sir E. P. C. Girouard, K.C.M.G. D.S.O., R.E., to be an A.Q.M.G. E. T. D. Cotton-Jodrell, C.B., 2nd (Railway) Cheshire R.E. (Vols.) to be Assistant Director for Volunteer Services at Headquarters. E. S. E. Childers, C.B., from h.p., to be a Chief Engineer. J. W. A. Marshall, C.B., from h.p., to be a Brigadier-General to Command the Troops in Jamaica. C. Penrose, from h.p., to be a Chief Engineer.

CHINA.—*Orders Regarding Recruiting*—The Governor of Kiang-su has issued some orders on special points to be observed with regard to recruiting :—

1. Troops are recruited by means of voluntary enlistment.

2. For this purpose the province is divided into three districts, with an officer of high rank at their head, assisted by the necessary staff.

3. Orders with regard to physical fitness are : Age, between 20 and 25 years; minimum height, 4 feet 6 inches; the recruit must weigh 100 Chinese pounds. The physical examination is in the hands of the recruiting officers, doctors not being available.

4. The following are not available for service in the Army : Opium smokers, criminals, tramps, discharged soldiers.

5. Every recruit must be able to obtain bail for his good conduct. The examination of this certificate is the duty of the district magistrate.

6. A register in quadruplicate will be prepared of the recruits of each circle, 1 copy for the Governor, 1 for the magistrate, 1 for the authorities responsible for the training of the recruits, and 1 for the unit to which they belong. Every man must vouch for the accuracy of the facts stated by an impression of the thumb of the right hand.

7. It is strictly forbidden to attempt coercion with the recruits. Every occurrence of that nature will be severely punished.

8. Recruits will be lodged in temples or inns, and will receive a daily pay of 50 cents for subsistence until their departure for their garrisons. On entering the garrison this daily rate will be raised by 15 cents until they are posted to a unit; from that time forward their proper rate of pay will be 7 dollars (29s. 2d.), paid monthly.

9. Recruiting officers and the staff will receive the following daily rate of pay: Officers, 1·20 dollars; clerks, 60 cents; non-commissioned officers, 50 cents; private soldiers, 15 cents (5s., 2s. 6d., 2s. 1d., 7½d.).

10. A photograph of every recruit in the garrison must be taken and placed on the back of his military register.

11. The families of recruits will receive 20 acres of land, tax free. In addition, every soldier will have 2·25 dollars (9s. 4½d.) deducted from his monthly pay and sent to his family.

12. After 3 years' service the soldier is transferred to the Reserve. Regimental commanders are authorised to furnish a certificate to men of very good character, which would entitle them to wear a button of the 6th or 7th rank.

13. Those magistrates who show special zeal in recruiting and in the capture of deserters will receive promotion out of their turn. Should the contrary be the case, they will be punished.

14. The recruiting officers are responsible that the recruits behave properly and do not plunder.

In conclusion, it is pointed out that in European countries and in Japan universal service prevails, by which everyone who has not undergone any dishonouring punishment is compelled to serve in the Army. The Governor hopes that his subordinates will take example from that fact, and will also consider it an honour to be a soldier. Especially welcome will be the literary men who failed in their examinations; special privileges will be accorded them by the military authorities.

In the meantime the Chinese Army is recruited (thanks to the disinclination for military service on the part of the population, and to the dishonesty of the officials entrusted with the recruiting) principally from the very men whom the above orders declare should be excluded from service in the Army.—*Internationale Revue über die gesamten Armeen und Flotten.*

The Chinese Army. — The transformation, the political importance of which is obvious to all, which the Chinese Army is at present undergoing, causes everything relating to its organisation to be of the greatest interest. This Journal has frequently given detailed information on the subject, but it may be of use to co-ordinate them and treat the question in its entirety. One of the best sources of information with regard to the Chinese Army, is the article dealing with the subject which appeared in the last volume of *Löbell's Jahresberichte über die Veränderungen und Fortschritte im Militärwesen*, from which the following is derived:

At the time of those troubles, which were the cause of European intervention in China in 1900-01, the troops of the latter consisted of three completely different elements:

1. The Imperial Troops, called the *Green Flags*, (*Loui-ying*) distributed throughout all the provinces, and who were only intended for police duty.
2. The Manchu Banner Troops (*Tsingtsi*), formed by the descendants of the Manchu Military Colonists, installed in all the large towns of China in the middle of the 17th Century.
3. The Provincial Troops (*Lieu-ying* or *Fang-ying*) raised by the governors of provinces, at their own expense in the later half of the 19th Century. Some of them, those for instance in Pechili and Shantung, were trained in accordance with European methods, and were the only troops able to offer any resistance to the Europeans in 1900-01.

There was no cohesion, not only amongst the three elements themselves, but also in the interior economy of each. The effective of these old troops, which still exist in all the provinces, can only be approximately estimated, as their abolition was practically decided upon in 1901, and

as, consequently, their composition constantly varies because they cannot be entirely abolished until the new troops are organised and have become capable of ensuring public order. In any case, such of these troops who have not yet commenced to be organised and re-armed according to modern methods, are still without any military value whatever. The effective of troops having a proper organisation was, in 1905, as follows :

In Pechili, 13,800 men; Shantung, 10,000; Ho-nan, 5,000; Kiang-su, 15,400; Kiang-si, 4,500; Hoo-pe, 4,000; Sheusi, 3,600; Kan-su, 2,000; Turkestan, 18,100; Fo-Kieng, 3,400; Kwang-si, 800; Kwei-chau, 5,700; Yunan, 6,000; Széchwan, 10,000; Shan-si, 5,000. In all, 107,300 men.

The plan of re-organisation, laid down by Imperial Decree at the commencement of 1906, provided for the constitution of 36 divisions of, in round numbers, 10,000 men each. This progressive organisation will be completely realised in 1922. At present six divisions have already been organised in Pechili and Shantung, under the chief command of Yuan-Shi-Kai, Governor of Pechili. In the other provinces a commencement has been made for raising the new formations, but they are not yet united in regiments or brigades, and both their armament and training are very inferior to the Pechili and Shantung troops. There can only be uniformity of armament when the Central Government alone undertakes to provide the troops.

Each new division is composed as follows : 2 infantry brigades of 2 regiments of 3 battalions each; 1 cavalry regiment of 3 squadrons; 1 field and 1 mountain artillery regiment of 3 batteries of 6 guns each; 1 Engineer battalion of 4 companies; 1 transport battalion of 4 companies. The six divisions are quartered as follows : 1st, Paotingfou; 2nd, Gung-pou; 3rd, Paotingfou; 4th, Machan and Siao-chang; all in Pechili; 5th, Tsinang-fou and To-chiou, in Shantung; 6th, at Haitse, near Pekin.

The infantry battalion is 600 men, the squadron 200, and the artillery brigade division 300 to 400 men. The company is divided into 4 sections, the squadron into 4 troops. To each unit a certain number of coolies are attached, about 90 per battalion, as porters, drivers, hospital orderlies, etc.

The re-organisation of the Army is fundamentally carried out by the Re-organisation Committee (*Liu-piu-Chou*), which has been sitting at Pekin since 1903, and on which are all branches of the service as members. Provincial Committees of a similar nature sit in each province, whose duty it is to recruit, organise, mobilise, and train the new troops, and to alter or disband the old ones. In principle the Army is composed of volunteers, with the exception of the Manchu population, which forms a military caste of its own, but which, up to the present, has not contributed many units to the new Chinese Army. The 1st Division, at Paotingfou, is entirely recruited from Manchus.

The period of service is for 10 years, of which 3 are spent in the regular army, 3 in the reserve, and 4 in the territorial army. Recruits must be from 20 to 25 years of age, and at least 5ft. in height. Opium smokers and convicts are not eligible, and the recruit must be in possession of a certificate of good conduct. After 3 years service with the colours, the men are dismissed and pass into the reserve, but may, if they choose, re-engage for the regular army. Non-commissioned officers and men who have completed 10 years with the Colours may be employed respectively as Sub-lieutenants or Non-commissioned Officers on recruiting service. Reservists figure on the recruiting lists. The Military correspond to the Administration districts, battalion headquarters to the prefecture, and company headquarters to the sub-prefecture or district.

FRANCE.—*The Army Budget for 1907.*—The War Department draft of the general budget for 1907 is as follows:

	Francs.	Francs.
1st Section (Home Troops)	674,815,746	944,285,050
2nd „ (Colonial Troops)	33,917,404	
3rd „ (Extraordinary Expenditure)	235,551,900	

The general Budget for 1906 amounted to:—

1st Section (Home Troops)	652,534,143	718,690,882
2nd „ (Colonial Troops)	39,239,229	
3rd „ (Extraordinary Expenditure)...	26,917,510	

The 1907 Budget therefore shews an increase of ... 225,594,168 over that voted for 1906, which is made up as follows:—

Increase.

1st Section (Home Troops)	22,281,603	francs.
3rd „ (Extraordinary Expenditure)	208,634,390	„
Total increase ...	230,915,993	francs.

Decrease.

2nd Section (Colonial Troops)	5,321,825	francs.
Increase remaining ...	225,594,168	francs.

1st Section (Home Troops).

General Observations.—The effective which served as a basis for the budgetary provisions for 1907, shew the following differences when compared with those for 1906:

—	Regular Army.		Gendarmerie.		Horses.
	Officers.	Men.	Officers.	Men.	
1907	28,872	550,390	677	24,135	141,146
1906	28,927	551,221	679	24,083	142,798
1907 Increase	...	...	...	52	...
1907 Decrease	55	831	2	...	1,652
	− 886		+ 50		− 1,652

2nd Section (Colonial Troops).

General Observations.—The effective which served as a basis for the budgetary provisions of the 2nd Section for 1907, shew the following differences when compared with those for the previous year:

—	Officers.	Men.	Horses.
1907	1,852	25,716	1,573
1906	1,852	25,723	1,557
1907 Increase	...	...	16
1907 Decrease	...	7	...

3rd Section (Extraordinary Expenditure).

The increase in the credits demanded for this Section is caused by the imperative necessity for hastening the execution of various works recognised as indispensable to improve the defensive organisation of the

country, a portion of which had already been promised in 1906.—*Précis from Budget Général de l'Exercise, 1907.*

The New Infantry Pack.—The chief characteristic of this new pack is that it is divided into two parts, viz.: the valise and "the bale."

The valise is of black canvas, like the present one, of which it is merely a modification. It is, however, smaller, does not contain a rigid frame, and the various straps have been made thinner, hence a diminution of weight. At the same time in order to prevent it from sticking in at the sides, a horizontal wooden rod is placed inside, and at the top of the valise, which keep it sufficiently stiff. The valise holds the linen and reserve rations. "The bale" is merely a bag in waterproof canvas; it is kept on the valise by the shoulder straps themselves which, with that object, are secured by two loops on to the bag and the waistbelt. "The bale" contains the vest or jersey and the slippers; the latter are of white canvas with leather soles and are very supple.

A distinction is made between two kinds of march, one far from and the other in proximity to the enemy. In the former case the man carries "the bale" on the valise, and 10 packets of cartridges in the pouches; in the latter case "the bale" is taken from the man and transferred to the company wagon, and in exchange the cartridges carried by the latter, 8 packets per man, are given him. This gives each man a supply of 18 packets or 144 cartridges. The weight of the two loads, close to or far from the enemy, are nearly the same.

On the valise are then fixed the tool and mess tin. The latter is deserving of special mention. It is almost of the same shape as the regulation camp kettle, but only holds from 2 to 3 litres (3½ pints to 5¼ pints). It is of aluminium and consequently very light; the metal appears to be of good quality, for almost all the mess tins returned from the recent manœuvres in good condition. This mess tin, as well as its lid, is painted black to avoid reflexion. To use them the men made up a long and narrow hearth, on which a row of mess tins are arranged one after the other. One mess tin sufficed to make soup for three men; this was poured into the lid, which was used as a bowl. Altogether, in spite of the lack of stiffness of the valise, the whole forms a pack which holds together well, and is of not too bad an appearance as long as the valise is full. It is considerably lighter than the present pack, and galls the shoulders less on account of the absence of the wooden frame.—*La France Militaire.*

The Foreign Legion.—The following letter addressed by the War Minister to the President of the Republic throws a significant light on the position of affairs in the Foreign Legion:

"For some time disquieting symptoms of indiscipline have manifested themselves in the foreign regiments; the number of heavy punishments, of despatch to disciplinary sections, of cases to be dealt with by the Council of War, have considerably increased. This state of affairs, which renders the task of command most difficult, is attributable to various causes, viz.: to the special method of recruiting for the Foreign Legion; to the advantages secured by men re-engaging, under the heading of high rate of pay, campaigns, proportional pension for length of service or retiring pension, without any regard to their conduct or their method of performing their duties.

"At present the recruiting of the foreign regiments is carried out by means of voluntary enlistments for a fixed period of five years. As it is almost impossible to verify minutely the identity and the accuracy

of the civil documents of candidates; and as, on the other hand it is not advisable to throw too great difficulties in the way of this special method of recruiting by exacting too great formalities of them, it results, as a matter of fact, that almost all are accepted when they shew proofs of the age, strength, and physical development required for war service. Their antecedents remain unknown and their bad propensities are not revealed until after their arrival at the Corps.

Once enlisted for five years' service, some of them become very bad bargains; their time is passed between the hospital, the prison and the disciplinary section. They find means of evading colonial service, and police duty in Southern Oran, and are of no practical use; the Government, which maintains them, derives no profit from them, and cannot get rid of them. Some of them regret having too thoughtlessly enlisted; they hold the Government responsible for the obligations they have themselves freely contracted, and they only endeavour, from motives of revenge, to ferment indiscipline in their Corps.

"As regards the re-engaged men the position is even more regrettable. According to the terms of the decree of the 14th September, 1864, the application of which is explained by the Ministerial Circular of the 31st January, 1890, men of the Foreign Legion may contract re-engagements for two, three, four or five years by prolonging their service. They are entitled to a high rate of pay, and, at the termination of 15 years' service, to a pension proportional to the number of years they have served; the latter, augmented by the annuities awarded them for campaigns, frequently exceed the total pension conferred on an excellent non-commissioned officer of the Home Army.

"Thus as soon as they have contracted the last re-engagement which entitles them to a proportional pension, bad characters have nothing further to restrain them; they give free course to their evil proclivities; the Government is bound to them by contract, and whatever they may do, they will always receive their pensions.

"It should be added that the number of bad characters in the Legion has increased since, by the decree of the 16th March, 1905, the Colonial troops have been empowered to cancel enlistments and re-engagements, and to dismiss their bad characters; these latter, incapable of honest work in civil life, have enlisted freely in the Foreign Legion under a false name and with a borrowed identity.

"From all the causes mentioned above, a serious decrease has resulted in the military value of the Legion, which should be pre-eminently a field force, on account, alone, of the sacrifices made by the Government for their maintenance. Further, the task of command has become almost impossible, in spite of the devotion of the officers and the cadres. In order to remedy this state of affairs there must be no thought of treating foreigners, who we receive under our colours, with greater severity than Frenchmen; they must not have applied to them exaggerated disciplinary punishments or special methods of repression, which would adversely reflect on the humanity of our present legislation. But it appears both possible and equitable to me, to retain them by the bait of emolument, and only to pay them proportionately to services rendered. The Government would reserve to itself the power to discharge bad characters, in the same way as an employer discharges workmen who do not carry out the obligations of their contract; the principle admitted for Colonial troops might be applied to foreign regiments, taking into account, as regards the details of its application, the special conditions of their recruiting and of their organisation.

"It is with this idea that the present decree has been prepared, the principal dispositions of which consist in the power left to the Government to break contracts of enlistment and re-engagement where all regulation disciplinary methods have been exhausted with regard to bad characters. This power will always lie with the Army Corps Commander, after the report of a disciplinary board, in order to give every guarantee to the person interested and, at the same time, to act with all the prudence necessity demands for the maintenance of sufficient effectives in the foreign regiments."

The following is the decree alluded to by the War Minister, and which is signed by the President of the French Republic, dated August 14th, 1906:

Art. 1.—In the foreign regiments, after three years' completed service of which at least six months have been passed in a disciplinary section, the enlistment contract of private soldiers, serving as foreigners, may be cancelled by a disciplinary act.

Art. 2.—Successive re-engagements, contracted for two, three, four, or five years, by the soldiers themselves, may be cancelled, by a disciplinary act, at the end of 18 months (eight of which have been passed in a disciplinary section) after the signature of the aforesaid re-engagements.

Art. 3.—The cancellations, by disciplinary act, of engagements and re-engagements will be pronounced by the General Commander, the XIXth Army Corps (by the Chief General commanding the troops for foreign battalions quartered in Indo-China and Madagascar) on the report of a disciplinary board acting in conformity with the decree on the interior economy of troops.

Art. 4.—Every person known to have been discharged, either from the Colonial troops or from the Foreign Legion by cancellation of enlistment or re-engagement, by disciplinary act, who shall have enlisted in one of the foreign regiments, may be brought before a disciplinary board, whatever length of service he may have completed since that enlistment, and his engagement annulled. In the event of the enlistment not being annulled, the service completed with the Colonial troops or with the Foreign Legion, previous to his discharge by disciplinary act, shall in no case be allowed to count.

Art. 5.—The preceding regulations will be inserted on the enlistment or re-engagement paper and read to the soldier; mention is made that this has been read is inserted at the end of the paper, before the signature of the man interested.

Art. 6.—The preceding regulations, with the exception of Art. 4, which will enter at once into force, are not applicable to enlistment or re-engagement contracts signed previous to the promulgation of the present decree.—*Bulletin Militaire.*

JAPAN.—*Japanese Army Sanitation and Hygiene.*—**Baron K. Takaki**, Surgeon-General (Reserve) of the Imperial Japanese Navy, formerly Director of the Medical Bureau of Japan, writes as follows in the *Scientific American* for 25th August:—

"As a result of considerable experiment, I discovered that the food of the average Japanese soldier and sailor contained too much carbohydrate and too little nitrogenous material. Instead of containing one part of nitrogen to 15·5 parts of carbohydrate, as it nominally should have contained, the food of the Japanese Army and Navy comprised about one part of nitrogen to 18 to 28 parts of carbohydrates. After

much opposition I succeeded in introducing a new regimen, in which a better proportion was observed. Kahke, or beri-beri, almost immediately disappeared, and has been practically unknown in the Navy for twenty-two years.

"During the recent war the problem of serving rations was one of the most difficult with which we had to cope. Food was sent to the front under strict superintendence. Victuals were also bought in the field; but the utmost precautions were taken in the purchase for fear of poison. During the severe winter the men were observed to wrap their provision boxes in flannel and to strap them beneath their overcoats, in order to prevent the freezing of moist foods. Whenever rice was eaten it was previously cooked—a standing order. In the heat of summer a small amount of acetic acid was added to the rice or barley, in order to prevent its decomposition. Besides eating the rations which the commissary department supplied, the men were permitted to buy eatables, following, however, the strict letter of the regulations. No soldier was permitted to purchase directly from the natives. Saké was served by the medical officers to the amount of about two ounces. The men who cared nothing for saké were given sweets. In general, it may be said that the food supply was sufficiently distributed in accordance with the recommendations of the medical staff. Army surgeons inspected whatever was eaten, both before and after cooking. Rations were never served to fatigued men, because of the possible harm which might have been done. Unripe fruit was debarred. Tea and tobacco were used in moderation as stimulants after hard marches.

"Extreme indeed were the precautions taken to supply potable water, and successful because they were extreme. Water was transported in special wagons drawn by four horses. A boiler cart drawn by one horse provided the necessary means of distillation. In addition the men were instructed to boil their drinking water in their provision pans, when they were unable to supply themselves from the boiled-water wagon of the company. At every mess each soldier filled his canteen with boiled water. Whenever a stream was resorted to, the men were instructed to take only the water in the centre of the stream, so that the impurities which cling to the bank were avoided. Even this water was boiled.

"To the medical staff was assigned the duty of locating suitable water supplies along the line of march. Medical scouts were sent out to test wells and springs. If the water of a well was unfit to drink, a signpost was erected at the spot giving timely warning of the dangers that lurked in the well. If it were advisable to boil the water, a conspicuous notice was also posted. Guards were sometimes stationed about springs of impure water; for a weary, hot soldier, thirsting for a cool draught, is not apt to be over nice in his selection of drinking water.

"Next in importance to good food and pure water comes the matter of bodily cleanliness. Clothes, shirts, blankets, and the like were washed with scrupulous care whenever the opportunity presented itself. The character of the clothing, too, received not a little attention. Too much clothing causes excessive perspiration, and is therefore injurious; too little clothing is manifestly a poor protective against cold. During rest or while on sentinel duty, the men were warmly clad. When undergoing much bodily exertion, they rid themselves of all that was superfluous.

"The overcoat was, perhaps, the Japanese soldier's most indispensable article of wearing apparel, serving him as it did not merely for keeping

him warm, but also often as a bed. After a severe rain it was dried on reaching quarters. Shirts and socks were washed frequently. In very cold weather the feet were swathed in bandages of flannel. Boot-sores are caused by stiff, unyielding shoes. For that reason the soldiers softened their boots, first by soaking them in water, and then by treating them with melted lard. Wet shoes and boots were not allowed to dry quickly; they were bound in straw or cloth, and dried gradually. When shoes and boots were so badly torn that they became useless, and no shoes were available, the men were instructed to bind their feet in dried grass or straw, and to cover their first wrapping with cloth. Straw shoes were also worn in such emergencies.

"Before a long march was undertaken, or before going into battle, the soldiers were made to bathe, to arrange shoes and socks properly, to repair broken strings and laces, and to fill their canteens with boiled water or tea. Cloths were disinfected at frequent intervals by special apparatus. During the march excessive drinking of water was forbidden, because thirst is thus not assuaged. Water was permitted only in quantities necessary for the preservation of bodily strength. The eating of ice or snow was likewise forbidden. In winter barracks the men were prone to use the Japanese charcoal pot. Inasmuch as there was much danger of asphyxiation, the use of these pots was sanctioned only when proper ventilation was possible. Summer insect pests, however, gave us more trouble than winter ventilation. In Korea and China flies are annoyingly numerous, and consequently a splendid means of carrying infectious diseases. We took special precautions to dispose of all refuse and manure, and succeeded in reducing the number of flies considerably. In order to guard against infection as much as possible, the soldiers were made to wash their hands before eating.

"The drinking of boiled water and the eating only of cooked food made typhoid, dysentery, and cholera almost an impossibility. To be sure, we did lose men by disease; but in all human history there has never been a record like ours. We established a record of four deaths from bullets to one from disease. In the Spanish-American war fourteen men died of preventable sickness to one man killed on the field of battle. The following gives a comparison of the mortality from disease per 1,000 men in the Japanese-Chinese war and the Japanese-Russian war:—

> "Japanese-Chinese war:—Cholera: Cases, 82·77; deaths, 50·86. Typhoid: Cases, 37·14; deaths, 10·98. Malaria: Cases, 102·58; deaths, 5·29.
>
> "Japanese-Russian war:—Cholera: Cases, none; deaths, none. Typhoid: Cases, 9·26; deaths, 5·16. Malaria: Cases, 1·96; deaths, 0·07.

"Some difficulty was experienced from small-pox, prevalent to a certain extent among native Chinese and Koreans. Still, out of 347 cases only 33 resulted in death, due probably to the fact that the medical staff carefully inspected all houses and camp sites before their occupation by the troops. Of typhoid fever there were in all 9,722 cases, resulting in 4,073 deaths. Of dysentery there were 7,642 cases and 1,804 deaths. The actual number of officers who were killed outright was 1,657; of petty officers and soldiers, 41,562. The rate of instant death in the Navy was 51 per cent., in the Army 28 per cent. The discrepancy is due no doubt to the high explosives used in naval shells. To the strict medical precautions which were taken may be attributed the good

health of the Army and its comparative freedom from infectious diseases. Our invasion of Manchuria was an antiseptic invasion. Disinfecting apparatus played as big a part as cannon in our ultimate victory.

"This course of disinfection began even before the men set foot in Manchuria. Men who had the slightest taint of epidemic disease were rejected. The transports were disinfected and quarantined before and after they had disposed of their consignments of troops. Three quarantine stations were utilised. The main station was that of Ninoshima, where 6,000 men could be disinfected in twenty-four hours. The chief means of treatment were baths, steam sterilisation, and steam mingled with formalin. Army medical officers were supplied with text-books, which were used in the instruction of the men; and this instruction played just as important a part in their daily life as their drill. We had a surgically clean Army, all but immune from disease; a body of men who fought well because they were physically perfect."—*U.S. Army and Navy Journal.*

RUSSIA.—*The Future Effective of the Russian Forces in the Far East.*—Although the detached Army Corps and smaller units, which, during the war, were sent from European Russia to the Far East, have recently, in part, returned to their headquarters, others, on the other hand, in more or less demobilised effectives, have remained in the Far East, and even beyond the Russian frontiers; still, it is possible to form an idea of the future strength and distribution of the Russian forces in the Far East. In this regard it should be noted that the military division of the country has been altered, and that, instead of the two military districts (Siberia with its headquarters at Omsk, and Priamur with its headquarters at Chabarovsk), there will in future be three military districts organised, viz., Omsk, Irkutsk, and Priamur. For this purpose the former Siberian Military District is divided into the Omsk and Irkutsk Districts, with headquarters at these places, and to the latter has been joined the Transbaikal Province, which has hitherto belonged to the Priamur Military District.

The following is the distribution of troops quartered in the present three military districts:—

Infantry.

9 East Siberian Rifle Divisions	of 4 regiments	of 4 battalions	= 144 Bns.
3 Siberian Reserve Brigades	of 4 „	2 „	= 24 „
(*In War, Divisions*	*of 4 regiments*	*of 4 battalions*	= *48* „)
12 Divisions	48 regiments		168 „
			(*In War* 192 „)

In addition in the second line from 14 to 20 independent battalions.

Cavalry.

1 Primorsk Dragoon Regiment...			6 squadrons.
Cossacks... Transbaikal	Peace, 4 Regiments War 12 „		72 sotnias.
Amur	Peace, ½ „ War 1½ „		9 „
Ussuri	Peace, ½ „ War 1 „		6 „
Siberian, unknown, because also required elsewhere.	Peace, 1 ? „ War 3 ? „		18 „
		Total at least	111 squadrons and sotnias.

Artillery.

	Batteries.
8 Rifle Artillery Brigades of 4 batteries	32
1 Rifle Artillery Brigade division of 3 batteries	3
3 Reserve Batteries (War, 3 Brigades of 4 batteries)	12
2 (In War 4) Cossack Horse Artillery batteries	4
Mountain batteries	17 ?
Mortar batteries	2
Total	70

In addition, there is a machine gun company to every infantry division.

Engineers.

4 East Siberian Sapper battalions.
3 Pontoon battalions.
2 Field-Telegraph battalions.
3 Balloon battalions.
6 Railway battalions.
2 Wireless Telegraph Companies, etc.

Transport.

2 Siberian Transport battalions.
1 Ussuri Cadre Company.

Fortress Troops.

3 Fortress Artillery regiments, 12 battalions.
1 Siege Artillery regiment, 14 companies.
1 Fortress Infantry regiment, 2 battalions.
And other small technical units.

On the whole, were the forces of the three military districts, Priamur Irkutsk, and Omsk, mobilised to their fullest extent, they would be in a position to take the field with 6, instead of as formerly 4, Army Corps, each of a strength of about 40,000 combatants, or with a total of about 250,000 men.

To these may be added, apart from fortress and such-like garrison troops, the 55 companies, 55 sotnias, and 6 horse artillery batteries of the Trans-Amur Frontier Guards, who, although set apart for special duty, can also be placed in line in the event of an attack. It would appear that these forces are amply sufficient to repulse any attack on Russian territory. Offensive action, on the part of Russia, and a consequent strengthening of her troops in the Far East, need not be considered at least for some years. It is, however, certain that their tactical distribution, especially as regards the present, merely provisional, grouping in army corps, and their dislocation, will shortly experience a thorough change.—*Précis* from *Internationale Revue über die gesamten Armeen und Flotten.*

General Organisation of Machine Gun Units.—Russia, which, at the commencement of the Russo-Japanese War, possessed 7 machine gun companies, of 8 guns each, has rapidly increased the number of these units. A Prikase of the 26th September, 1904, laid down that, as a rule, there must be one machine gun company to every infantry division, or to a brigade of riflemen. Since then many machine gun companies

(horsed or pack) have been raised, as well as mounted machine gun detachments, for cavalry divisions.

The general organisation of the companies having been already described (*see* JOURNAL for June, 1905, p. 730), we will confine ourselves to adding some further supplementary information regarding them.

The weight of the Maxim machine gun, with its carriage, with shield, is 220 kilograms (about 4 cwt.). It is loaded by means of canvas bands,[1] each carrying 450 cartridges. It is sighted up to 2,800 yards. The ammunition supply is 6,000 rounds per machine gun, and the maximum rapidity of fire is 600 shots a minute. The horsed companies may move at a walk (about 3½ miles an hour), or at a trot (about 8 miles an hour), or alternate walk and trot (4½ to 5½ miles an hour). When they trot the three gunners sit on the box of the limber, which also carries the driver. In the pack companies, the machine gun and its tripod weighs 106 lbs., there are no shields, and its height above the ground does not exceed 2 feet 4 inches. These last can only move at a walk. They are less mobile than the horsed companies, but their *matériel* can be carried, by hand if necessary, wherever an individual can go.

Three Prikases laid down the creation of 3 new machine gun companies for the 3 divisions of the Guards' Corps, 3 other companies for the 3 divisions of the Grenadiers' Corps, 1 company to each of the 13th, 14th, 20th, 21st, 34th Divisions, as well as to the divisions of the Grenadiers of the Caucasus, the Guards' Rifle Brigade, and the 1st and 2nd Brigades of the Caucasian Rifles; 2 companies were formed in each of the 1st, 2nd, and 5th Rifle Brigades, or altogether 21 new companies.

On the other hand, the companies of the 8th and 10th Divisions, attached to Vladivostock, have been abolished (the 10th Division has itself been disbanded), and a Prikase also orders the abolition of 2 machine gun detachments, which had been formed at the Officers' School of Musketry to be sent to the Far East: the School, at the same time, will retain the *matériel* of one of these detachments.

The mounted machine gun detachments, formed at the rate of 1 per cavalry division, are armed with 6 rifle machine guns. This gun, of the Madsen type, weighs 17½ lbs., is carried in a case fixed to the saddle, and is charged by means of a magazine containing 25 cartridges: the firing is automatic, but a special arrangement allows for the firing of single shots. To open fire the man jumps off his horse, withdraws the gun from its case, places the magazine, fits on the shoulder piece, and puts the gun on a rest prepared for it. The magazine of 25 cartridges is exhausted in two seconds; the maximum rate of fire is 200 shots a minute, but in practice from 120 to 150 are rarely exceeded. Each pack weighs 247 lbs., and carries 96 magazines (2,400 cartridges). There is, in addition, a reserve of from 200 to 300 cartridges. A mounted detachment consists of 1 officer and 30 men, included in the effective of one of the regiments of the division. The men are armed with rifle and sword; each detachment is split up into 3 sections of 2 machine guns each. The rapidity of march of these detachments is the same as that of the cavalry. A Prikase of this year gives out that there were 24 such detachments in regiments of regular cavalry, and that 11 detachments similarly organised for the Don, Orenburg, and Ural Cossacks were to be disbanded, and their *matériel* bestowed on other units, to be selected by the general staff. There will, therefore, shortly be about 35 such detachments. The

[1] According to the Press, the metallic bands used by the Japanese were preferable.

Inspector-General of Cavalry is charged with the preparation of a definite organisation of these detachments, taking into account the lessons of the war. It appears that none of the detachments, formed during the war, arrived in Manchuria before the battle of Mukden.

According to a pamphlet by Lieut.-Colonel Anisimov, experience has demonstrated that the machine gun on a carriage can open fire with full effect :—

a. Against lines of skirmishers and supports up to 1,500 yards.
b. Against infantry and cavalry formation deployed with closed ranks up to 2,000 yards.
c. Against unmasked batteries, and unmasked infantry, and cavalry columns, and against staff groups up to the extreme range of the machine gun, viz. : 2,800 yards.

As regards the rifle-machine gun, its dispersion is greater than that of the machine gun on carriage, and can only be usefully used against deep formations. It should only open fire on really favourable objects, and should reserve its ammunition for the moment when the enemy gets to close range, viz., between 600 and 800 yards. According to Lieut.-Colonel Anisimov, the only practical kind of machine guns, in the offensive, are the machine gun carried on pack animals, or the rifle-machine gun, which alone are able to get close to the enemy on account of their mobility, their lightness, and the small target they present.

According to the *Ruskii Invalid*, commanders of machine gun units will be prepared for their duties at the Officers' School of Musketry, which will also specially train a certain number of men to act as instructors.—*Revue Militaire des Armées Etrangères.*

United States.—*A Motor Ambulance for the United States Army.*—A specially constructed automobile ambulance is the latest device of modern warfare which has engaged the attention of the War Department at Washington, and such has been the success attending the experiments thus far made with this new adjunct of the hospital service of the United States army that probably arrangements will be made in the near future for the adoption of such vehicles as a part of the regular equipment at our principal military posts. The cost of the auto ambulances will be less than $3,000 each, and taking into consideration cost of maintenance and service rendered, these cars possess many points of superiority over the four-mule ambulances heretofore employed.

While several European nations anticipated the United States government in the introduction of the motor ambulance for military service, the movement which led to the present innovation was really inaugurated over two years ago when Surgeon-General O'Reilly called the attention of the Secretary of War to the fact that practically no progress had been made since the civil war in the facilities for the transportation of the dead and wounded from the field of battle. With the sanction of the Secretary of War, orders were issued directing Captain Clyde S. Ford, assistant surgeon, United States army, then stationed at Fort Barrancas, Florida, to make a thorough investigation of the transport problems of the hospital service—a subject to which he had previously devoted considerable attention. The recommendations of Captain Ford were so emphatically in favour of motor ambulances as affording the ideal solution of many of the problems involved, that he was authorised to have an experimental car constructed in accordance with his own designs.

In view of the exactions likely to be placed upon an army ambulance, operating ofttimes under rather unusual conditions, Captain Ford decided

in favour of steam in preference to any other motive power, and the automobile was constructed under his direction by the White Sewing Machine Company, of Cleveland, Ohio. It is an 18-horse-power vehicle, and the chassis is practically of the stock type employed in the regulation touring car of the White model, but the body, which was designed by Captain Ford, is of course unique in construction.

The top which surmounts the body is little higher than that of the ordinary inclosed automobile and is hung with heavy curtains upon which, as upon the body proper, appear the letters "U. S." and the design of the Maltese cross in red upon a white ground, which constitutes the emblem of the medical branch of our military service. The interior of the car, under ordinary conditions, presents a clear space save for long seats on either side, the occupants of which face one another. This arrangement insures a maximum carrying capacity when the motor is used as an ordinary conveyance by officers of the medical department or is employed in the transportation of slightly wounded soldiers or convalescents.

In the event of the car's requirement for service as a hospital on wheels for the conveyance of seriously wounded men, a transformation is quickly effected by folding the seats, previously mentioned, snug against the wall on either side and letting down from the ceiling, where they have been suspended out of the way, heavy oak poles or standards which are set in place in the middle of the car, dividing the interior into two sections, as it were. The purpose of these poles, to which are secured iron hooks, is to serve as supports for the litters or stretchers to which the entire interior of the ambulance is given up under this arrangement.

The auto ambulance affords space for four stretchers with the occupants extended at full length. Two of the litters are placed side by side on the floor of the car while the other two are placed above in positions corresponding to the upper berths of a sleeping car. Each of these upper litters is supported on the inner side by the hooks on the oak standards in the middle of the car, while on the opposite side it is suspended by leather straps attached to the framework of the top. At the rear of the car is a broad step for the ambulance surgeon, and the driver's seat at the front of the machine provides accommodation for two medical attendants in addition to the chauffeur.

The tests to which this initial American military automobile ambulance has recently been subjected at Fort Myer, Virginia, were designed to bring out all possible defects, but despite the severity of the tasks imposed, there were no developments that would make necessary radical changes in either design or construction. The automobile has been operated, under campaign conditions, over a total of more than 1,600 miles. In one test it carried a load of twelve persons a distance of fifteen miles in less than an hour and on another occasion a speed of nearly forty miles per hour was attained on a smooth road. The motor has more than met the expectations of the army officers in hill-climbing capabilities and has demonstrated an ability to travel over ploughed ground at a speed of six miles per hour.

The increased carrying capacity of automobile ambulances gives them great superiority over the old-style vehicles of this class, but of course the chief consideration in favour of their adoption is found in the higher speed which can be attained, obviously a most important factor, since in surgery saving of time frequently means the saving of life. In time of peace the auto-ambulance will be employed in the sphere of usefulness now open to its horse-drawn prototype, and in time of war such vehicles

will be used to remove the sick and wounded from the field of battle to temporary hospitals or direct to railroad trains and also for the transfer of invalids from temporary hospitals to base hospitals.—*Scientific American.*

URUGUAY.—*Armed Strength.*—The South American Republic of Uruguay has an area of about 190,000 square kilometres (118,777 square miles), with a population of about one million. The standing army is composed of Volunteers and enlisted men,[1] who must not be under 17 or over 40 years of age, must be at least 5 feet in height, and must be physically strong, must suffer from no chronic ailments or mutilations, and must not have been punished for any disgraceful crime. The period of service varies between 2 and 5 years. On first enrolment the volunteers receive a bounty from the Treasury; the remaining enlisted men receive an indemnity from the Government, according to their length of service with the colours.

Every male belonging to the Republic is obliged to register himself on the lists of the National Guard, for which purpose a register exists in every district, which contains the number, name, dwelling, calling, etc., of those liable for service. A Commission of Enquiry regulates the period of service. Substitution is permitted. The National Guard is divided into 3 classes: the mobile, the departmental, and the territorial. To the first belong the whole of those fit for service between the ages of 17 and 30; to the second class those between 31 and 45 years of age. The territorial class consists of every man fit for service who has passed the age of 45. On the age of 60 all liability for service ceases.

In war the National Army is composed of the Regular troops and the mobile National Guard. The departmental class of the latter would only be employed within its own department, whilst the National Army must march to wherever the Government thinks fit to send it. The latter will be reinforced by the departmental class to make good losses. The territorial class performs the guard duties in its districts.

The National Guard is assembled, for drill purposes, on Sundays and holidays in February, March, and April of each year. The distribution of the units of the mobile class is decided by drawing lots. The Standing Army consists of :—

1 Artillery Regiment	...	(2	staff officers,	15	officers and	250	men.)
7 Chasseur Battalions	...	(10	,,	115	,,	2,000	,,
7 Cavalry Regiments	...	(12	,,	112	,,	1,500	,,
2 Fortress Artillery Companies		(2	,,	10	,,	160	,,
1 Cavalry Squadron (escort)		(1	,,	4	,,	160	,,
1 Machine gun Company (Colt system)							

The armament consists of the 7-mm. Mauser rifle, of Brazilian make, 1895, which only differs slightly in mechanism from the Spanish and Chili pattern; the officers carry the sword and the Colt revolver; the cavalry carry the sword and Remington carbine; the artillery is armed with the 7·5-cm. Krupp gun, and one company of it with the French Bange gun.

The artillery regiment consists in peace of a staff and 2 batteries. Each battery has 1 captain, 1 first lieutenant, 2 lieutenants, 3 sub-

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[1] The recruiting is carried out as necessity arises, and is chiefly by no means voluntary, through the compulsory enrolment of the first best men who fall into the hands of the "Commission." The enlisted men consist almost entirely of coloured men.

lieutenants, 11 sergeant-majors, 62 sergeants, 9 first corporals, 9 corporals, and 94 men.

The infantry battalion (Chasseur) consists of a staff and 4 companies. The strength of each company is 1 captain, 1 first lieutenant, 1 lieutenant, 2 sub-lieutenants, 1 sergeant-major, 2 sergeants, 8 under officers, and 82 men.

The cavalry regiment consists of a staff and 3 squadrons. The strength of each squadron is 1 captain, 1 first lieutenant, 1 lieutenant, 2 cornets, 1 sergeant-major, 4 sergeants, 8 under officers, and 83 men.

The *Academia General Militar* is responsible for the training and supply of the corps of officers. It was established in 1885 as a six-year course of lectures; after five years pupils can enter the Army as cornets, and after the entire course, as lieutenants. The Institute admits 40 pupils; retired officers are instructors, and for elementary knowledge there are civilian instructors. At the end of every year examinations are held.

As there is no commissariat department, every unit has its own administration. As there is also no medical department, every unit has 1 doctor, 1 pharmaceutical and 1 hospital assistant.

Military law is looked after by judicial officials of first and second rank, by a standing Army Council of 5 judges and 1 secretary, by a Military Appeal Tribunal, and by a Military Tribunal.

The President of the Republic is, according to the Constitution, the Commander-in-Chief, and has the chief command of the whole of both the land and sea forces, with a War Minister and a general staff under him. In addition to the War Minister, the War Department consists of 2 personal aides-de-camp, 3 staff officers as departmental chiefs, 5 other officers, and several assistants. A technical section, with 4 subsections, is attached to the War Department, and are: 1 geographical, 1 artillery, 1 fortress, and 1 construction and Navy section.

The whole Army is trained by the general staff on the model of that of the Argentine Republic. It consists of an adjutant-general and 6 sections: 1 for artillery and parks, 1 for infantry and military schools, 1 for cavalry, 1 for pay, 1 for office work, and 1 for statistics and archives.

The uniform consists, for the infantry, of a dark blue tunic with green collar and facings; for daily duty dark jackets and trousers, and in hot weather similar garments of linen or cotton are worn; the headdress is a képi. The cavalry, too, wear the képi, dark blue dolmans, and red trousers; the artillery wear dark blue coats and trousers.—*Militär Wochenblatt.*

NAVAL AND MILITARY CALENDAR.

SEPTEMBER, 1906.

1st (Sat.) H.M.S. "Dreadnought" commissioned at Portsmouth for trials.
" " H.M.S. "Minerva" arrived at Devonport from Mediterranean.
4th (T.) Launch of H.M.S. "Lord Nelson" from Palmer's Shipbuilding Yard, Jarrow-on-Tyne.
5th (W.) 14th Hussars left England for India in the "Assaye."
" " 1st Bn. Border Regiment arrived at Gibraltar from England in the "Soudan."
" " 1st Bn. King's Own Yorkshire L.I. left Gibraltar for South Africa in the "Soudan."
6th (Th.) H.R.H. the Duke of Connaught arrived at Breslau to attend the German Imperial Army Manœuvres.
10th (M.) H.M.S. "Minerva" paid off at Devonport.
11th (T.) H.M.S. "Minerva" recommissioned at Devonport for further service in Mediterranean.
" " Owing to a revolution martial law was proclaimed in Cuba.
12th (W.) A Special Army Order was issued for the Organisation of a General Staff for the Army.
14th (F.) An Army Order was issued regarding the selection of Officers for high commands.
16th (S.) Mr. Taft, United States Secretary for War, left Washington for Cuba on a peace mission.
17th (M.) Hostilities were suspended in Cuba.
" " An Army Order was issued dealing with additional pay for proficiency to be granted to Soldiers.
19th (W.) H.M.S. "Minerva" left for Mediterranean.
20th (Th.) Launch of H.M.S. "Shannon" at Chatham.
21st (F.) 2nd Bn. Leicestershire Regiment left England for India in the "Dongola."
24th (M.) Launch of the third-class cruiser "Colonel Bolognesi" from the Vickers' Yard, Barrow-in-Furness for the Peruvian Government.
25th (T.) Large re-enforcements of American marines sent to Cuba.
26th (W.) The Cuban President and Cabinet resigned.
27th (Th.) 14th Hussars arrived in India from England in the "Assaye."
" " An Ultimatum was presented to Cuba stating that unless peace was secured in the island, an American military occupation would be proclaimed.
" " Intelligence received that 7 black British soldiers in Northern Nigeria held 500 Tauregs at bay, and inflicted heavy loss.
28th (F.) 1st Bn. King's Own Yorkshire L.I. arrived in South Africa from Gibraltar in the "Soudan."
29th (Sat.) 3rd Bn. Coldstream Guards left England for Egypt in the "Sicilia."

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NOTICES OF BOOKS.

Imperial Strategy. By the Military Correspondent of the *Times.* London: John Murray, 1906.

This is a collection of very remarkable critical essays, written by one who has not only proved himself to have an intimate knowledge of the requirements of modern war, but whose judgment is sound and whose tone is Imperial. Of the twenty-one articles contained in the book, all but two have appeared before, either in the columns of the *Times* or in the pages of the magazines; in them the various problems of the Empire have been dealt with from day to day, temperately and without prejudice, and it is not too much to say that men have begun to look out for the opinion of the Military Correspondent of the *Times* upon the various political and military situations which constantly arise. As is perhaps inevitable in a book made up of a number of contemporary essays, a few of which were written as long ago as 1903, the public interest has faded in regard to some of the matters which are herein discussed, but none the less, they are all well worthy of a re-appearance.

With the essays on National Strategy, on Modern War, on the General Staff, on the Low Countries, on Indian Army Administration, and other kindred and important matters, most of us are familiar, although all will be glad to peruse them again; but the two new treatises on Railway Strategy and on the Defence of India, which are included in this volume, form a most important contribution to the general study of our national security. In writing on Railway Strategy the author very truly remarks that "the gigantic efforts that have been made in Western Europe to equip railways for the performance of a leading *rôle* in the next great war, have received very inadequate recognition in our Army. Railway Strategy has become an art within an art, and while our War Office has stood almost entirely outside this great movement, every other General Staff in Europe—even the Turkish—has spared neither cost nor effort to train up its best officers to a thorough and practical knowledge of the resources, machinery, management, and military possibilities of all the railway systems which have spread, and are daily spreading, their meshes over the world." The writer points out how much our engineers have accomplished in war; how much we have to our credit; how unrivalled is our experience; how great the skill of our *personnel*: he discusses the railway work done by us and by others in recent wars, and after describing modern developments, insists upon the urgent necessity for the establishment during peace of "harmonious relations between a General Staff and all railway administrations in any theatre which may become the scene of operations. The railways," he declares, "must know the nature of the strain that may be placed upon them, and the Line of Communications Directorate must know the limits of the powers of the lines." Up to now we have made no study whatever of railway strategy, and it is well that this gifted writer has drawn our attention to our shortcomings, for indeed, "these things must be

changed if success is desired when our Armies take the field in a serious war."

In discussing our political liabilities and assets in relation to the defence of India, the *Times'* correspondent brings to notice the serious limitations of the Dane Mission to Kabul; he complains—not without reason—of our want of fixity of purpose, that "we worked up the Ameer to the necessary pitch of interested enthusiasm in things that belong to his peace and to ours; we alarmed him on the subject of Russian power, and then, when he must have expected that we were about to propose a working agreement, we presented him with the lame and impotent conclusion that we had nothing more to say." In considering the defence of the frontier of Afghanistan against Russian aggression, the writer points out—and though his numbers may be disputed, his main facts cannot be ignored—that in the event of war we shall require at least 70,000 good troops to preserve our communications and the peace of our border. He proposes that we should boldly take over the "land of the Unruly" and establish a regular Government throughout, pointing out the excellent results which have resulted from our assumption of direct control in Baluchistan and in the Kuram Valley. Every word that is here written upon the measures to be taken, and the means to be employed for the defence of Afghanistan and for the safety of our Indian Empire, deserves to be read and weighed, not only by the men of both our Services, but by those who take any abiding interest in—and still more by those who seek to sway—the destinies of our Empire. "The security of India, and the fulfilment of our pledges, require that we should be able to place 50,000 men at Kabul within six weeks, and 250,000 on the Helmund within eight months, increased to 500,000 within eighteen months, together with 100,000 men on our Line of Communications, so long as the independence of the border tribes is preserved intact. Our total liability on the frontier is for 650,000 field troops, and these should be maintained by a depôt system, which will allow us to keep the ranks full during a three years' campaign, by a flow of drafts at the rate of fifty per cent. per annum. If we desire to make sure of victory we must add fifty per cent. to the above strength of our field Army on the Helmund."

It is impossible in the space at disposal to do adequate justice to a book so replete with valuable and instructive information on subjects of such vast importance as those included in its title; the various problems of which it is made up are here treated by a writer with a style of singular vigour, and possessing great literary skill of expression.

Every citizen of the British Empire should read this book.

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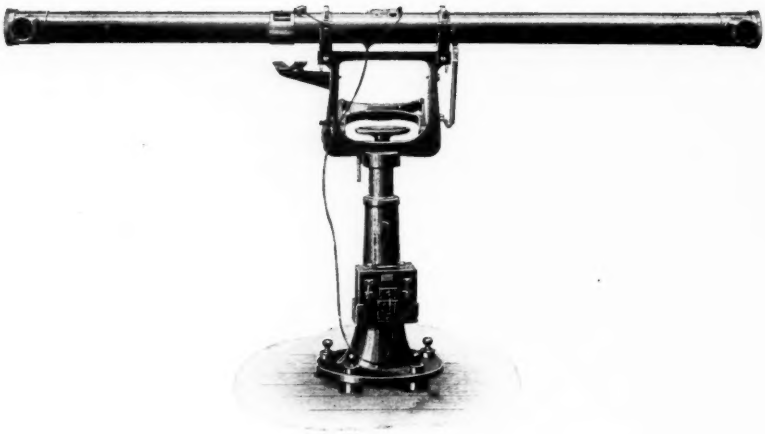

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